Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC. NOV. 26, 1945

Scrap: *This forest of upended P-40* Warhawks, *stripped of valuable items, are just a few of the nearly 4,000 surplus aircraft of all types neatly aligned at Walnut Ridge, Ark., awaiting the acetylene torch that will cut them apart and the 10-ton tractor that will mash the metal into scrap. The field was established as a storage depot by the Reconstruction Finance Corp., which is scrapping $8,000,000 worth of combat aircraft per day.*

Increased Research, World Air Police Asked at Clinic

Oklahoma City conference also featured by realistic yet optimistic discussion of transport and personal aviation's future.....Page 7

Nazis Were Developing 16-ton Helicopter at War's End

Variable-incidence wing transport also uncovered by British intelligence officers in French aircraft factory.....Page 11

WPB Expert Sees 1,000,000 Personal Planes by '55

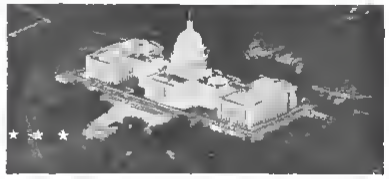
Approximately 2,800,000 families will be able to afford them, study made for CAA indicates; expansion of early auto market cited.....Page 19

ATC Expected to Cancel All Contract Work by March 1

Only six of 20 airlines which originally handled operation still are carrying on; 12 others are inactive .....Page 42

Washington Observer

* *



SURPLUS *COMMANDOS*—With 76 C-46 *Commandos* now in surplus, CAA, Surplus Property Administration and Curtiss-Wright, the plane's builder, are all anxious to complete type testing—SPA in particular, as there is at present a demand for these aircraft. However, certification tests have been going on at the C-W plant in Buffalo, which will be closed about the first of the year. It's likely tests will not be complete by then, and SPA wonders if the demand for C-46's will persist until tests can be finished at the new C-W plant in Columbus.

*

NO DELAY—Meanwhile, Braniff Airways reportedly has bought two *Commandos* for $20,000 each, either to await CAA type approval, or for use on its Mexican affiliate, where an ATC is unnecessary. Curtiss-Wright is dickering with Reconstruction Finance Corp. to lease six C-46's, convert them for commercial cargo operations and then lease them to non-scheduled carriers.

* * *

INTELLIGENCE—The Combined Intelligence Observation Survey recently was changed to Joint Intelligence Objectives Agency when the British withdrew from the project of gathering technical data about enemy production for dissemination to American industry. Reason for British withdrawal was that they set up their own agency, retaining contact, however, with the American group. The alphabetical confusion continued, however. Directly under CIOS was Technical Industrial Intelligence Committee which under the change is known as Technical Industrial Intelligence Branch or THB instead of TIIC. Release of the most valuable reports has been held up by security, although most observers in Washington find it difficult to understand how it could give aid to an enemy. Rapid release during reconversion might, on the other hand, help American industry.

* * *

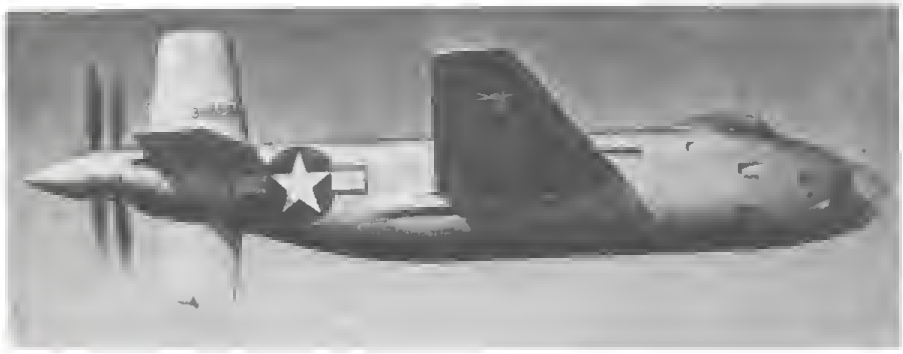
AIRPORT DISPOSAL—In being made disposal agency for surplus airports, RFC has been given a job it did not want and one over which it will not be actual boss. If the Surplus Airport Disposal Committee set up by Surplus Property Administration exercises its full power, RFC's airport disposal policy will be controlled by the Army, Navy and CAA which are represented on the committee, but none of which wanted the disposal job although wanting a voice in the policy.

* * *

AUTOGYRO TO SMITHSONIAN—CAA soon will present to the Smithsonian Institution, for its historic aircraft section, the only known roadable autogyro in existence. It is a two-seater produced by Pitcairn Aviation in 1934 and sold in 1935 to CAA's predecessor, the Bureau of Air Commerce.

* * *

COMMUNITY COMPANY—There are indications on Capitol Hill that the community airline company versus regulated competition issue is due for more airing. Senator Brewster, of Maine, has suggested that the question "has not been handled right," and could not be considered a closed issue. Brewster and some other Senators feel that the issue is very much alive and will be reopened.



The XB-42 bomber which last week was set for a transcontinental speed run

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Editorial Headquarters,
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330 W. 42nd St., N. Y. 18, N. Y.
Pacific Coast Office, 621 So. Hope St., Los Angeles

Published weekly by McGraw-Hill Publishing Co. Inc. Price 50c a copy. Allow ten days for change of address. Subscription rates—United States, Mexico and Central and South American countries: $5 a year, $8 for two years, $10 for three years. Canada, $6 a year, $10 for two years, $12 for three years. All other countries $8 a year, $13 for two years, $18 for three years. Entered as second class matter July 31, 1929, at the Post office at New York, New York, under the Act of March 3, 1879. Printed in U. S. A. Cable Address: McGrawhill, New York. Please indicate position and company connection on all subscription orders.

JAMES H. MCGRAW, Founder and Honorary Chairman. JAMES H. MCGRAW, JR., President. CURTIS W. MCGRAW, Senior Vice President and Treasurer. HOWARD EHRLICH, Vice-President (for business operations). WILLARD CHEVALIER, Vice-President (for editorial operations). JOSEPH A. GERARDI, Secretary and J. E. BLACKBURN, Jr., Director of Circulation. 330 West 42nd Street, New York 18, N. Y. Branch offices: Chicago, 520 North Michigan Ave.; San Francisco, 68 Post Street; Los Angeles, 601 W. Fifth; Philadelphia, Widener Building; Cleveland, Terminal Tower; Detroit, 856 Penobscot Building; Boston, 350 Boylston Street; London, 6 Bouverie Street, E. C. 4; Washington, Philadelphia, Cleveland, Detroit, St. Louis, Boston, Atlanta.

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News at Deadline

Ramspeck to ATA

Rep. Robert Ramspeck, Georgia Democrat, probably will become executive vice president of the Air Transport Association. There are reports that he has accepted the post, which would be a new position. If so, announcement may be made after today's meeting of ATA directors. Ramspeck himself has been noncommittal.

Since the death last March of Col. Edgar S. Gorrell, ATA president, the organization has been headed by Stuart G. Tipton as acting president. Tipton is ATA counsel and former assistant general counsel for the Civil Aeronautics Board.

Ramspeck, at 55, is one of the well-known men in Congress. He is Democratic whip in the House, where he has served 16 years.

Eastern Orders 202's

Eastern Air Lines last Wednesday signed an order for 50 Martin 202's representing an investment of more than $10,000,000. First of new fleet is to be delivered in April, 1947, with the order to be completed by November, 1947. Capt. Eddie Rickenbacker, president of EAL, signed the order in New York in the presence of Glenn L. Martin. Martin revealed his firm will be able to handle overhaul of all 202's after 400 have been sold.

Aero Board Complete

The Aeronautical Board, top government organization on aircraft design and production for the Army and Navy, is expected to reveal its plans and policies this week. Importance of the board is indicated by its membership, appointments to which have been completed and include Lt. Gen. Ira C. Eaker, deputy commander, AAF; Maj. Gen. E. M. Powers, assistant chief of air staff, material and services; Col. J. B. Cary, War Department general staff operations representative; Vice Admiral Marc A. Mitscher, deputy commander of Naval Operations, air; Rear Admiral L. B. Richardson, assistant chief, Bureau of Aeronautics, and Capt. L. A. Moebus, chief of aviation plans for Admiral Mitscher.

▶ Steadily increasing criticism was evident among airline and aircraft executives at the National Aviation Clinic over lack of positive and aggressive action by our State Department in its negotiations with foreign countries, mainly Great Britain, for landing rights.

▶ TWA expects to use its first two Lockheed *Constellations* for United States-Paris service which will start shortly before the first of the year. Its Douglas C-54's will open service to Cairo about the same time if the British will permit it.

▶ Engineers, designers and research men confronted with torsional vibration problems will find "Evaluation of Effects of Torsional Vibration," a valuable fundamental treatise on the subject. The 578-page volume presents the experimental and analytical methods used by research departments of a number of leading diesel engine manufacturers. Reports were prepared by SAE in response to a request from the Navy for advisory cooperation of the society. A special committee was formed to undertake the project.

▶ TWA will be using Trans-World insignia on all planes both domestic and foreign. Several of its DC-3's already are carrying the new designation.

▶ Harry Playford's new non-scheduled contract cargo air service to start operations shortly out of St. Petersburg has already completed negotiations with several firms.

▶ Increase in the weight of North American's new experimental Navy fighter by more than half a ton has made drastic redesigning necessary. This will result in some delay in the project and first flight tests may not come before March.

▶ Consolidated Vultee at San Diego has completed its PB4Y *Privateer* contract with the Navy with the delivery of 15 planes. Just prior to V-J Day the *Privateer* program was one of the Navy's most important ones.

▶ Ryan is scheduled to complete and deliver its final FR *Fireball* to the Navy by December 1. The Ryan San Diego plant is an excellently-equipped facility. Navy has made no final decision about future Ryan contracts, but the company is reported to have a promising new jet fighter model that indicates performance much above the *Fireball*.

▶ Navy has cancelled its contract with Consolidated for the fast medium bomber RY-3 which became one of the most famous on-and-off-again contracts in the closing months of the war. Approximately 30 of these planes have been accepted. At one time the contract had been cancelled only to be reinstated to meet a request from the British for this type of plane.

▶ There are reports that the automotive industry does not feel that production of personal aircraft is of sufficient volume at present to make it worth their while to go into the business at present. Some estimates put it at about a year and a half before they can decide whether production of private airplanes will be attractive to the automobile industry.

▶ Experiments in lightplane takeoffs and landings in near-zero visibility, with the plane rising only a few feet before landing on the runway, are being conducted by Piper Aircraft Corp., at the Lockhaven, Pa., airport. Object is to obtain fuller airport utilization for takeoff and landing practice, regardless of weather.

▶ Part of the space in the General Motors Aeroproducts plant at Dayton, Ohio, is being diverted to manufacture of washing machines by Aeroproducts for GM Frigidaire Division.

▶ The 20-place feederliner mentioned in Aviation News last week, now in mockup stage at Beech Aircraft Corp. will have four engines. It is designed to take off fully loaded with one engine dead to clear a 50-foot obstacle in 2,000 feet. Its four 350 hp. engines are submerged in the wings. It is expected to cruise at about 190 mph.

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VOLUME 4 · NUMBER 18

Aviation News

McGRAW-HILL PUBLISHING CO., INC

November 26, 1945

Increased Research, World Air Police Force Urged at Clinic

Oklahoma City conference also brings realistic, yet optimistic discussion of future of air transport and personal aviation; Eaker, Mitscher warn against losing airpower leadership.

By ALEXANDER McSURELY

Imperative necessity for continuance of aviation research on a scale far beyond pre-war days, and a demand for unification of military services in a manner which will permit aviation to take its proper role as the major policing force against aggression, were the two main points of emphasis at the 1945 National Aviation Clinic at Oklahoma City last week.

Scheduled speakers and floor discussion at the three-day session also viewed the future prospects of commercial air transport and personal aviation with a realistic, but optimistic eye, discounting fanciful dreams of an immediate Jules Verne air age, but admitting the imminence of air transportation for an enormous segment of the world's population through airlines, non-scheduled air services and private planes.

▸**Keynote**—Keynote of the three-day session was sounded by Eugene E. Wilson, vice-chairman of United Aircraft Corp., when he told some 800 clinic registrants: "Aviation is a young art facing breath-taking technological possibilities whose limits are fixed only by the intelligence, courage and zeal with which we pursue them."

Four revolutionary developments, all of which find their greatest usefulness in the air, are clamoring for full speed ahead in research, Wilson said. They are: electronics, jet and rocket propulsion, supersonic aerodynamics and nuclear physics.

▸**Inter-relation**—Wilson described aviation as a trinity, comprised of the air force, the aircraft industry, and air commerce, foreign, domestic, public and private. To the U. S. air force the world must look for police power to deny the opportunity for an aggressor's conquest: to air commerce the world must look for freedom of communication and transport which will remove war incentives. And the aircraft industry, through technological development and production must supply both.

Added emphasis on the importance of airpower as a world policing agent was given by Lt. Gen. Ira C. Eaker, Deputy Commanding General, AAF, when he told the Clinic: "In an atomic age airpower provides not only the best present means of striking an enemy with atomic bombs but the only available protection against the misuse of atomic explosives."

▸**Grim Warning** — And Vice-Admiral Marc A. Mitscher, Deputy Chief of Naval Operations, another Clinic speaker, sounded a grim warning:

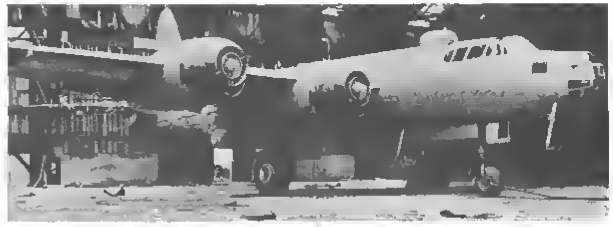
"Twice, we as a nation have been unprepared for war and twice our allies have given us the element of time to apply our great productive power to our war machine. Present trends indicate that any future war will strike with speed greater than sound, and that we will not have that time element."

▸**Program** — A strong five-point program of government aviation

Air World Division

Trend of future military airpower is so definitely in the direction of the rocket and the guided missile as to indicate that civil aviation will grow farther and farther away from any direct relation to air power, L. Welch Pogue, CAB Chairman, told the National Aviation Clinic last week.

He predicted future air power would be a "new type of ordnance," and that civil aviation would merely serve as a transportation service in any future international conflict rather than as an integral part of military aviation. He stressed the importance of keeping military air power and civil aviation separate in matters of policy and administration, and warned of the danger of civil aviation becoming the "stepchild" of the military services.



FOUR-ENGINE JAP BOMBER: *This plane, found by U. S. Naval technical air intelligence officers when they landed in Japan, is a new Jap Navy four-engine bomber. Called Rita by the Americans, it is estimated to have a 4,000-mile range with full bomb load and 4,800-mile range without bombs. Its maximum speed is about 360 miles an hour. So far as is known, the plane was not used before Japan surrendered.*

Helicopter Utility Stressed

Use of the helicopter in scientific investigations, for agriculture, as a fishing scout, for mail and feeder airlines shuttle service, for animal censuses and timber scouting, and other peacetime uses were cited to the National Aviation Clinic by Igor I. Sikorsky, inventor of the first American helicopter.

The Russian-born designer reported that near Urupan, Mexico last summer the helicopter was first used to inspect the Paricutin volcano from the air in a manner not possible with any other means.

He expects that the single-rotor helicopter will continue to remain the predominant type, that it will remain a short-range special purpose craft, with limitations as to size and maximum speed.

▸**Combination** — A combination helicopter and plane, while possible, he believes would always be less efficient than either a straight helicopter or a straight plane in its own field. He disclosed that his company is now producing a new four-place model with cruising speed of better than 80 mph, a hovering ceiling of 3500 ft. and a useful load of 1250 pounds. Mass production of helicopters with consequent cost reduction for a popular market may be five to 10 years from the present, he added.

policy was recommended by Carl B. Squirer, Lockheed Aircraft vice-president. ▸All properly qualified manufacturers should be invited to submit competitive designs and bids on aircraft desired for our armed forces. ▸All properly qualified manufacturers should be fully reimbursed for costs of designing and building prototype airplanes in government design competitions. ▸The company with the winning design should get the prime production order, with additional contracts at government's discretion to other manufacturers under licensing agreement. ▸The winning manufacturers should receive a fixed price production contract calling for delivery of at least one plane per day for a period long enough to perfect efficient production methods. Enough units should be built to provide for an adequate pilot training program.

▸The procuring agency should buy a full set of production tools.

Such a policy would insure enlistment of the best creative genius in experimental aircraft design, would stimulate manufacturers to develop more efficient production, and would equip the air force at all times with a useful number of the most advanced planes and pilots trained to fly them, and tools for immediate production of them in case of a national emergency, Squirer said.

TANK AND GUN-CARRYING PLANE:

This captured German Arado 232B, is pictured in England on display at the Royal Aircraft Establishment. The craft has a total of 23 wheels to allow better weight distribution on landings and take-offs. It was used for tank and gun-carrying assignments.

▸**Future**—Predicting a vast potential for the private plane, Squirer called for design of planes capable "of landing and taking off in an area equivalent to a sandlot ball park with flying characteristics that will enable any normal adult to fly it with absolute safety after an hour's instruction."

Such a plane, with 125 mph cruising speed, 500 mile range, operating cost of 5 cents per mile, and within the general automobile price range, may not be possible tomorrow or next year, but will come sooner than many people may think, he forecast.

▸**Competition** — Warning that America is facing new research competition with Britain and Russia, as the result of our allies putting German aeronautical scientists to work, was given by John F. Victory, National Advisory Committee for Aeronautics secretary, in a paper summarizing future aviation research prospects. He pointed out that scientists are confronted with many unknowns as they begin supersonic speed studies and investigation of atomic bombs carried in pilotless aircraft with unlimited speed possibilities.

Intensive research also is needed for development of 500 mph. commercial transports powered by gas turbines and jet propulsion, and for personal airplanes and helicopters, he pointed out.

▸**Funds**—Warning that the Federal Bureau of the Budget was playing a powerful but little-known role behind the scenes in dictating the extent of federal aviation appropriations, many times without adequate background for its arbitrary decisions, was given by Robert H. Wood, editor of AVIATION NEWS. Wood emphasized that he was not arguing for "Padded payrolls or porkbarrel legislation." But he pointed out that the budget bureau too often, in its aviation policy was following a short-sighted policy of niggardly economy rather than wise spending.

He urged more independent action by the federal congress in aviation matters wherever necessary, pointing to the behest of the Civil Aeronautics Act to the CAB and the CAA not only to regulate, but to foster, encourage and develop aviation.

▸**Safety**—Jack Frye, TWA President, called for increased emphasis on safety, dependability and public service for the nation's airlines, as forerunners to fixing costs. Frye envisions an expanded foreign air transport market with American aviation taking a major role, and foresees the international air traffic as a first step in international understanding and tolerance which will promote world commerce and peace.

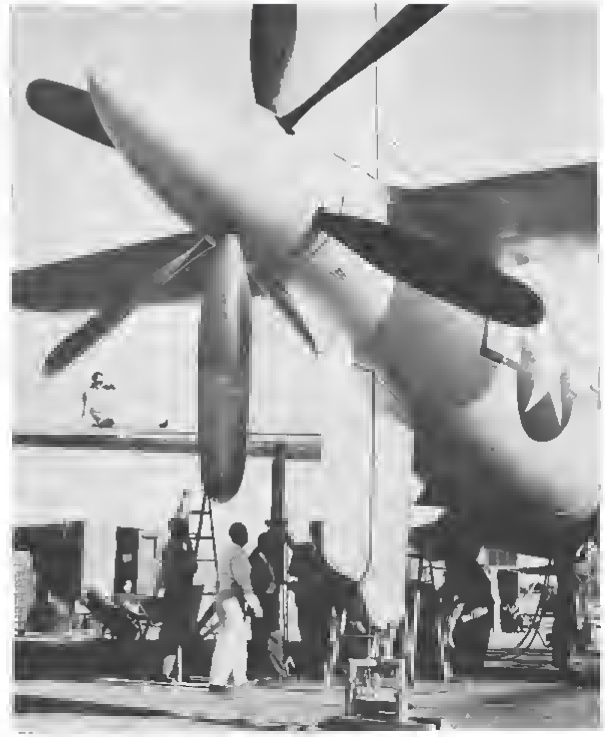
Establishment of a National Airport Service Corporation, by the commercial airlines, to operate the airports which they serve on a non-profit basis was recommended by Dr. Lynn L. Bollinger, Harvard University, as a solution to the present problem of municipal airport operations and charges on airlines. Such an operating corporation could take advantage of all the non-aviation revenues which mean the difference between deficit and profit at many airports. He declared airport users could bear their full financial responsibility only if three requirements are met. ▸Capital investment must be limited to a prudent cost for facilities actually needed. ▸Operating cost also must be limited to a minimum consistent with quality service. ▸Non-aviation revenues must be fully developed and credited against overall airport costs.

▸**Research** — Danger of relying solely on pure research for national security was pointed out by Morton Wilner, former deputy director, Aircraft Division, Aircraft Production Board. He emphasized the need for preservation of a nucleus of aviation production facilities that can be rapidly expanded in the event of emergency.

Wartime safety studies of the AAF which showed that over 22,000 army planes were destroyed in non-combat accidents costing the lives of 26,000 men, were cited by Col. George C. Price, AAF Office of Flying Safety, as evidence of a need for greater safety in all aviation. He urged a central clearing house for all aviation interests outside government to compile statistics on accidents and recommend preventive measures.

▸**Legislation** — Necessity for cooperation between legislative bodies which are enacting aviation legislation and the aviation industry was emphasized by Harry Meixell, Director, State Relations, Air Transport Association.

Pointing out that more than 2,000 bills dealing with aviation were introduced in legislatures of the 48 states in 1944-45 sessions, producing more than 250 laws, he urged need for uniform patterns for state legislation and for a clear line of demarcation between state and federal jurisdiction in aviation matters.



THE "MIXMASTER'S" BLADES:

Tail-view of the Douglas XB-42 shows the contra-rotating propellers, mounted aft of the tail section, which are driven by extension shafting from power unit forward in the fuselage. Nicknamed the "Mixmaster," the craft was ready for an attempt to set a transcontinental speed record last week.

▸**Education**—Dr. Frank W. Hart, University of California, appealed to the aviation industry to form an aviation education foundation which would foster education of American youth in aviation matters, at the closing clinic session.

AVIATION CALENDAR

Nov. 26—Board of Directors of the Air Transport Association, Carlton Hotel, Washington, D. C.

Nov. 26-27—National Aeronautic Association—Joint Private Flyers' Conference, Statler Hotel, Washington, D. C.

Nov. 27—Air Transport Association, Annual Members meeting, Carlton Hotel, Washington, D. C.

Nov. 26-30—American Society of Mechanical Engineers, 66th Annual Meeting, Hotel Pennsylvania, New York.

Dec. 3-5—SAE National Air Transport Engineering Meeting, Edgewater Beach Hotel, Chicago.

Dec. 4—Sportsman Pilots Association, Carolina Hotel, Pinehurst, N. C.

Dec. 10-11—Aviation Distributors and Manufacturers Association, Hotel Statler, Cleveland, Ohio.

Dec. 11-12—Western Aviation Conference, Sacramento, Calif.

Dec. 13-14—Airline Finance and Accountant Conference, Dallas.

Dec. 16-17—International Aviation Day, El Paso.

Dec. 17—National Aeronautic Assn. and Aero Club of Washington banquet honoring recipient of Robert J. Collier Trophy and presenting Brewer Trophy and Haire Awards, Statler Hotel, Washington, D. C.

Dec. 17—Institute of Aeronautical Sciences, Wright Brothers Lecture, Washington.

1946

Jan. 4-5-6—All American Air Maneuvers, Florida Air Races.

Jan. 7-11—SAE Annual Meeting, Book-Cadillac Hotel, Detroit, Mich.

Jan. 11-20—Cleveland (Ohio) Aircraft Show.

Jan. 21-22—Northwest Aviation Planning Council, Rune Hotel, Idaho.

Jan. 28—Institute of Aeronautical Sciences Honors Night Dinner, Waldorf-Astoria Hotel, New York.

Jan. 29-31—Institute of Aeronautical Sciences, Annual Meeting, tentatively scheduled for Pupin Laboratory, Columbia University, New York.

Feb. 12—IATA European Rate Conference, Paris.

Feb. 21—IATA Middle East Rate Conference, Cairo.

March 1-5—Pan American Aircraft Exposition, Dallas, Texas, reviving pre-war annual exhibit.

April 3-5—SAE National Aeronautic Spring Meeting, Hotel New Yorker, New York.

Newest Navy Jet Power Units Are Lightest Yet Constructed

Westinghouse *Yankee* measures only 19 inches in diameter and "baby jet" only 9½; both are first such motors of entirely U. S. design to be tested in flight.

The Navy has disclosed that the lightest jet aircraft engines yet constructed are being built for the Navy by Westinghouse, including the *Yankee* which is 19 inches in diameter, and the so-called "baby jet" which measures only 9½ inches across and was developed for use in pilotless aircraft.

These engines, the Navy reports, are the first jet power-plants of wholly American design to be tested in flight. They owe their efficient streamlined shape and light weight to the axial-flow compressor which Westinghouse's aviation gas turbine division has incorporated for the first time into a U. S. designed and tested engine. In the axial-flow compressor, the four basic elements—the air compressor, the combustion chamber, the turbine to supply power for the compressor and the jet nozzle—are arranged in a line, one behind the other.

▸**Advantage** — Navy engineers pointed out that the small diameter of the axial-flow engine makes it particularly suited to high speeds at which it develops an extremely large amount of power. Because of its small frontal area and correspondingly low air resistance, it lends itself to a cleaner, more streamlined overall aircraft design.

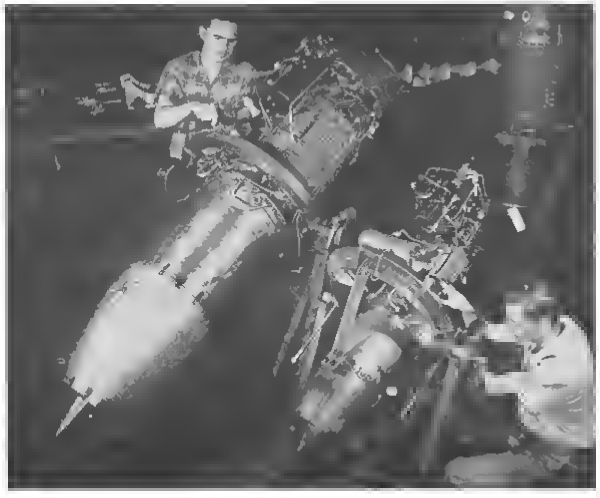
Recent models of the *Yankee* jet have a weight of less than half a pound per pound of thrust, or less than half the weight of piston engines. The *Yankee*'s total diameter of 19 inches is likewise half that of an "up-and-down" engine of comparable horsepower.

▸**Power**—The greater part of the power produced in the engine from the combustion gases — 3,400 hp.—is extracted by the turbine to rotate the compressor at its rated 18,000 rpm. Left over as propulsive energy in the jet stream, to carry the aircraft forward, is 1400 pounds of thrust, which is equivalent to around 1400 hp. at 375 mph.

The baby jet yields a propulsive thrust of 275 pounds, or 275 horsepower at modern plane speeds.

▸**Others Secret**—Westinghouse began its work on turbo-jet engines at the Navy's request the day after Pearl Harbor, in 1941, with no information on the progress of similar developments by the enemy or our Allies being afforded the researchers until their models were at the testing stage.

Later engines, still under military security, have been produced which better the weight and power characteristics of the two newly-announced power units.



New Navy Jets—*Technicians adjust the Navy's two new Westinghouse jet engines, the Yankee which is 19 inches in diameter, and the "baby jet" which is only 9 inches in diameter.*

Arctic Tests Set

Three months of Arctic cold-weather tests will begin soon for two Lockheed P-80 jet fighters and a Lockheed *Constellation*, now en route to Ladd Field, Alaskan "Wright Field" at Fairbanks.

Sub-zero temperatures will afford a thorough testing of the winter performance of the two aircraft. Crews will be under close observation of Wright Field's aero-medical group.

▸**Governor** — Pressurization of the P-80 under extreme winter conditions will be tested, and the Ladd Field flights promise extended information on the performance of a new jet turbine governor which has been under test on the Mojave Desert at Wright Field's Muroc Flight Test Base.

Winter tests of the P-80 will be directed by Capt. Howard T. Markey, while Capt. J. C. Reilly directs *Constellation* tests. Ten Lockheed engineers have been assigned to the project.

Pittsburgh Appointment

The new head of the Allegheny County, Pa., Public Works Department, John B. Sweeney, will direct a $15,000,000 Pittsburgh-County airport program. His assistant is J. Twin Brooks, present manager of the county airport.

Sweeney's appointment as a $10,000 a year executive devoting full time to aviation was another step in Pittsburgh's campaign to become one of the nation's air service centers. He will be in charge of both County airport and the new Greater Pittsburgh airport.

▸**Program**—Slated for early 1946 is a huge $12,000,000 development program at the new field calculated to make it Pittsburgh's air passenger terminal. The older county field then will serve as a private and freight flying terminal.

Nazis Developing 16-Ton 'copter, Adjustable Wing At War's End

Huge rotary-wing craft was designed to lift trucks and tanks across rivers; variable-incidence wing control found on experimental Blohm & Voss transport.

By BLAINE STUBBLEFIELD

A 16-ton helicopter to lift five tons, and a Blohm & Voss airplane with variable-incidence wing control were in development by the Germans in France at the war's end. They are described in reports by a British intelligence mission, just released by the U. S. Commerce Department's Office of The Publication Board.

The Focke-Achgens 284 helicopter was intended to lift tanks, trucks and the like across rivers and to hoist such loads as bridge girders into place. Paper design work at Breguet Design Office at Toulouse was destroyed when the plant was bombed, but detail was given from memory by staff members. It has twin rotors, 55.5 ft. in diameter, counter-rotating and mounted at the tips of a transverse beam consisting of a center portion and inclined outriggers built up of tubular struts.

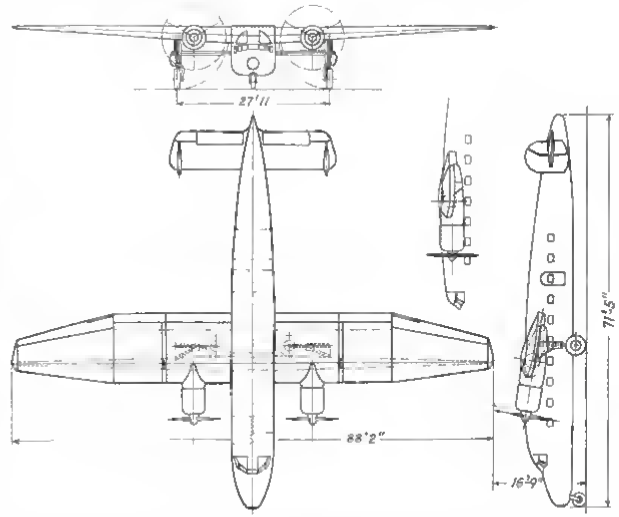
▸**Details**—Blades are tubular steel spars, 8 cm. outside diameter, wall thickness 6.5 mm., cylindrical and constant gage from root to the 4.5 m. station, whence they are swaged down to a parallel-sided oval at the tip, 8 cm. major axis, outside depth 3 cm., gage 2.5 mm. Over the section of cylindrical spar, blades are rectangular, 77 cm. chord, tapering to 36 cm. Ribs are wood, with 3-ply covering. Airfoil section is NACA 230 series, 13 percent thickness-chord ratio. Blade area is 5.4 sq. m., solidity .064.

Original power was two BMW 801 engines of 1,600 hp. each, later increased to 2,000 hp. Engines, mounted toward center of the beam, are hooked up with gears and shafting, with clutches arranged so that either can drive one or both rotors. The beam is the main structural member and the fuselage, left uncovered except for a 2-man cockpit, provides no load space, but has a hook and cable, with release slip. There is a carriage wheel under each engine, and a tail wheel.

▸**Early Model** — Staff members said the machine was designed at 12.5 metric tons gross, to lift 2 tons, but later was increased to 16 tons operating weight by the addition of power. Model 284 is an expanded version of Model 223, shown herewith, which in turn was developed from Model 266, an earlier design intended for feeder service on Luft Hansa.

The British mission inspected two prototypes of the Blohm & Voss plane at the Bayonne Breguet factory. One of them had been assembled, then dismantled and was awaiting transportation to Toulouse for test flight, the other was almost complete. Neither had been flown. Each had two 14-cylinder BMW 501 engines, giving 1,600 hp. at 2,400 rpm.

▸**Trouble Seen**—There was very little data on control of the variable-incidence wings, or on their performance. It was learned that Breguet expected trouble with the actuating jacks. The entire wing, which is built around a large tubular spar, including engines and wheels, can be rotated through 9 degrees on the transverse axis, between plus 3 and 12 with reference to the fuselage. The wing turns on two adjustable hinges fixed to the fuselage. Change of

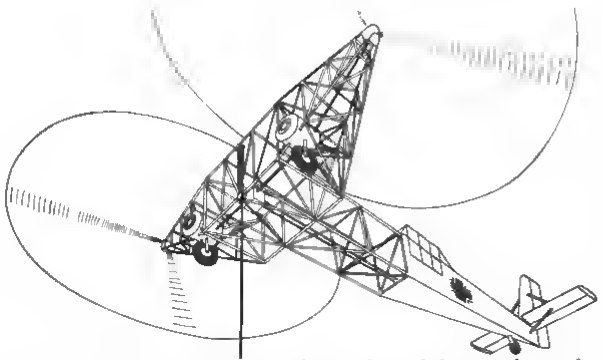


Variable-Incidence Wing: *Two prototypes of this Blohm & Voss transport equipped with a variable-incidence wing were inspected by a British mission in France after the German defeat. Designed to cut take-off run and give other savings, neither of the two planes had been flown.*

New Republic Plane

The second airplane in Republic Aviation Corp.'s personal plane line will be an all-metal twin-engine five-place landplane which will cruise at about 170 mph. and sell for approximately $7,000, Alfred Marchev, Republic president, disclosed last week.

Marchev said the airplane was now in the design stage but would be in production in time for 1947 distribution. The plane will be powered with two Franklin 212-hp. air-cooled engines, the same powerplant that is going into the *Seabee* amphibian, four-place plane which is now going into production. First of the revised *Seabees* with the larger engine and full four-passenger accommodations, was to be exhibited in New York this week.



Heavyweight Helicopter: *Sketch shows 16-ton helicopter being developed by the Germans when the war ended It was designed to lift tanks and trucks across rivers and to lower such loads as bridge girders into place*

incidence is effected by two screw jacks actuated by electric motors and reduction gear, through a switch on the instrument panel.

Estimated takeoff run is 368 yards with 30-degree flap and 3-degree incidence, as compared with 221 yards with same flap and 12-degree incidence. Speed of takeoff is 89 mph. or 71 9 mph, respectively. Design is said to combine low drag in cruising, with short landing gear, keeping fuselage floor horizontal and low for convenient loading

▸ **All-Metal**—The plane is an all-metal, high-wing type, with retractable tricycle landing gear, carrying 18 passengers and crew of three, with 1,100 pounds of cargo, over 930 miles range

A rear compartment is adaptable for five more passengers displacing freight Fuel and oil, 420 and 40 gallons respectively, are stored in tubular spars in the center section of the craft's wings

Canadian Airports

Canada is turning its surplus airfields over to the Crown Assets Allocation Committee which transfers the airports to the Department of Transport Fields not needed by the department in its plans for civil aviation development are released for disposal by the Canadian War Assets Corp The Department of Transport takes into consideration fields needed by civil flying clubs and by the Royal Canadian Air Force auxiliary squadrons. No fields have yet been sold by the War Assets Corp.

SPA Step Stresses Airport Problem

The extreme ticklishness of the problem of disposing of surplus war-built airports is illustrated by the Surplus Property Administration's Regulation 16 which establishes an advisory committee to counsel the Surplus Property Administrator on disposition of the fields, even though the Reconstruction Finance Corp has been designated as the disposal agency (AVIATION NEWS, Oct 22).

Reg 16, released last week, constitutes the Surplus Airport Disposal Committee to consist of representatives of the War and Navy Departments, CAA, SPA and RFC Its duties are to advise on the manner in which, and the conditions on which, the disposal agency should be authorized to dispose of particular airport properties

▸ **Conditions** — As forecast by AVIATION NEWS, the regulation sets forth the principle that financial return to the Government is a secondary consideration, exceeded by "the benefits the public and the nation will derive." Accordingly, airports may be disposed of to state and local governments for "considerations other than cash."

However, airports disposed of in such manner must be open to the public, with exclusive leases barred This is implementation of CAA's determination that publicly-owned airports or their facilities shall not be leased exclusively to any one operator

▸ **Background**—Although RFC was designated as the airport disposal agency about two weeks ago in a general SPA order, RFC has been loathe to assume the responsibility. The same is true of the Army, Navy and CAA, although all three have an interest in the future utilization of the fields

This is believed to be the motivation behind the establishment of the unique advisory committee

Palmer Named Aide To Fairchild Head

Richard C Palmer, who has been in Washington for the past 14 years and who was general manager of the National Aircraft War Production Council until its dissolution, has been appointed special assistant to J. Carlton Ward, Jr., president of Fairchild Engine & Airplane Corp Palmer will assist Ward in both Washington and New York

Fairchild is manufacturing the C-82 *Packet* for the Army and is working on a commercial version

Richard C. Palmer

of the plane. And extensive postwar trainer program is being developed and an improved version of the F-24 private owner plane is in production The company will continue to develop the Ranger engine working on a propulsive unit

In addition, the company has interests in the Duramold Division, Stratos Corp, Fairchild Instrument & Camera Co., and Alfin Corp, a subsidiary

▸ Palmer is vice-president of the National Aeronautic Association in charge of its air defense council Through the management of NAWPC he was in close touch with the entire aircraft industry during the war and with the armed services

Junking of Old Planes Pressed Before 'Economy' Clamor Rises

RFC and SPA scrapping $8,000,000 worth of combat aircraft daily, allaying industry's fears that a vast pool of obsolete models would threaten fullest development of new types.

By WILLIAM KROGER

The aircraft industry's fears that a vast pool of World War II planes kept for years would threaten the fullest development of new types is being ended with the scrapping of $8,000,000 worth of combat planes per day by the Surplus Property Administration and the Reconstruction Finance Corp.

Within a year it is expected that the scrap-salvage program now swinging into high gear will dispose of about $9,900,000,000 worth of surplus combat aircraft—practically the entire stock

▸ **Quick Action**—Responsible government officials are determined to wipe out what now is considered to be largely an obsolete air force before any Congressional or public clamor arises for its retention for reasons of economy alone Illustrating this are 87 B-32 bombers—nearly the entire production—awaiting the scrap heap at Walnut Ridge, Ark AAF has retained a few B-32's for continued testing and experimentation, but the others are being stripped of usable items, then will be broken up and the metal melted down The planes were flown direct to the Arkansas storage field from the factory at Fort Worth.

A somewhat similar instance was the salvaging of 59 incomplete B-29's at plants in Wichita, Kans., Marietta, Ga., and Omaha, Nebr

▸ **Six Centers**—The RFC storage field at Walnut Ridge is one of six to which surplus warplanes are being flown to be scrapped Others are at Altus and Clinton, Okla., Kingman, Ariz., Augusta, Ga., and Ontario, Calif Eventually, more than 40,000 aircraft will be received into these fields Operations at each will be similar to those at Walnut Ridge, shown to magazine and newspaper representatives recently, where nearly 4,000 planes of every type are stored.

As a combat plane is flown into a storage field, an Army crew strips it of "critical" and secret items—compasses, clock, radio and radar, bombsights, armament. The RFC salvage crew takes over, removes engines, tires if usable, and other items suitable for resale The remnants of the plane are torn apart and mashed flat by a huge tractor

▸ **Value in Doubt**—The next stage has yet to be decided. RFC has sold a small amount of scrap metal The value of this scrap is questionable Most important metal in it is aluminum—there are 13,000 lbs in a B-24 bomber. If this were melted down, it is estimated that approximately 65 to 70 percent of the plane's metal could be recovered in ingot form. However, it would not be pure aluminum, but an alloy. Its industrial use is highly debatable

Seeking to gauge the industrial use and value of scrap aircraft metal in ingot form, the Navy is installing a melting reverberatory furnace at the Jacksonville Naval Air Station, salvage operations at which also were shown on the magazine and press tour Smaller furnaces are being operated by the Navy at San Diego and Alameda, Calif., Miami, Fla., and Norfolk, Va The Alameda station has sold a small quantity of aluminum alloy ingots at about six cents per pound, but this by no means constitutes a fair test of the practicability of the proposal

▸ **Jacksonville** — The Jacksonville furnace, expected to be in operation about Jan 1, will handle 15 tons of scrap per day. It is believed the reclaimed metal will be 94 percent pure aluminum which, it is hoped, can be sold at nine cents per pound The Navy is now

Job Done: *Pictures such as this were common during the war to illustrate America's air might This is almost the opposite. The war over, hundreds of heavy bombers, including 87 B-32's that never even saw combat, await scrapping at the Reconstruction Finance Corp's storage depot at Walnut Ridge, Ark. Engines and removable items are salvaged, the airframe torn into scrap metal*

tearing apart an average of five fighter planes per day at Jacksonville.

Most time-consuming and ordinarily the most costly part of the scrapping operation — separating the various kinds of metal—is being done at Jacksonville by prisoners of war. When the prisoners are repatriated early next year, scrapping costs will soar. Then will arise the question of whether the reclaiming operation can be conducted profitably.

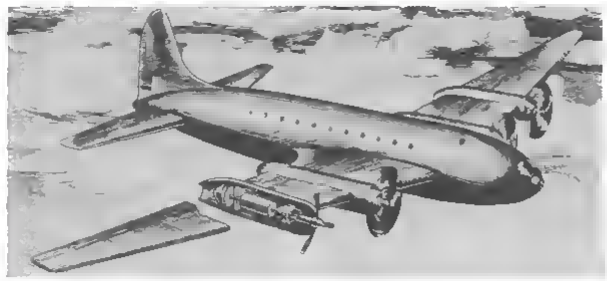
▸ **Naw Alloy** — Also complicating the question is the fact that in reality the metal coming from the Navy's furnace will be a new alloy. It cannot be used in aircraft and industrial purposes so far proposed could not absorb the 1,000,000,000 pounds RFC figures eventually will be available without destroying the markets of the existing producers of light metals.

RFC is cooperating with the Navy in the Jacksonville project and the furtherance when complete will serve as a pilot plant on which the RFC will base its decision as to whether to install furnaces at the six storage depots.

▸ **Other Problems**—The salvaging of metals in surplus aircraft is only one of the problems confronting RFC in the scrapping of combat planes. Possibly a larger headache are the engines which are being removed before the airframe is stripped down. Navy officers at Jacksonville state that only one percent of the engines are useless. The remainder, both there and at the RFC storage depots, are being "pickled"—preserved for possible later sale.

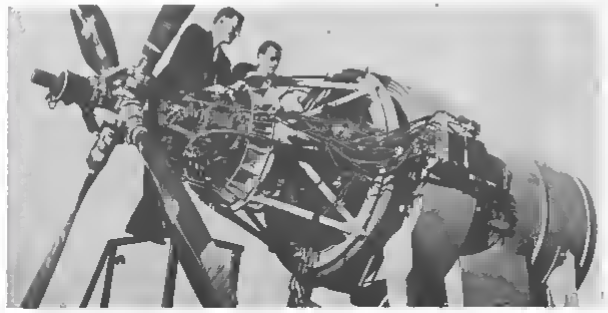
At Jacksonville alone there are 1,500 engines pickled, ranging from 750-hp. Jacobs and Rangers up to the great P & W R-2600 and the Wright 3350. Some of these could be used commercially, but there will be far more in supply than the commercial market could absorb, and that still would leave the question of what would happen to the original producers.

▸ **May Be Scrapped** — Considered opinion is that before the 18 months preservation period is up, these engines will go the way of the shiny new B-32's. On Nov. 15, RFC closed the bidding on some 1,900 engines of various makes and sizes. The sale was conducted as a test of the market and what prices might be expected. Results had not been tabulated last week, but officials were not optimistic that the sale would provide the answer of what to do with the engines.



GENERAL ELECTRIC'S NEW PROPJET:

New photo of General Electric's "propjet" engine, first type of gas turbine to drive both a propeller and generate jet propulsion simultaneously. Engineers believe this type of engine will be used extensively to power transports. Above, a drawing which shows how the propjet engine fits in the wing of plane.



Republic Contracts To Buy Franklin

Agrees to purchase Aircooled Motors Corp. for $1,500,000; substantial part of output will go into *Seabees*.

Republic Aviation Corp. has entered into agreement to purchase outright the Aircooled Motors Corp. of Syracuse for approximately $1,500,000, giving Republic all rights for manufacture of the Franklin aircraft engines, scheduled to be used in many lightplanes.

The Republic *Seabee*, a four-place amphibian personal plane being built by the parent company, will be powered by a Franklin 212-hp. engine. In line with substantial orders already placed for the *Seabee*, an important percentage of Aircooled Motors production is scheduled for Republic.

▸ **Backlog**—In addition to Republic requirements, a current $2,000,000 Franklin engine backlog includes orders from Bell Aircraft, the Stinston division of Consolidated Vultee and the Army Air Forces.

Alfred Marchev, president of Republic, will become chairman of the board of Aircooled Motors Corp. and Carl F. B. Roth, Aircooled Motors president, will remain in that position and all other officers of the company will retain their present posts.

▸ **Progress**—Mr. Marchev said "Republic's acquisition of an important and progressive aircraft engine company is one more step in our definite plans to provide personal planes at a moderate price for the man and his family who will fly in the future."

▸ "Now is the time to prove that prewar standards of airplane production must be brought up to date," Marchev said.

"If personal plane prices are to be brought within reason for all who want to fly comfortably and safely, the whole concept of airplane manufacture must be changed from 'handbuilt' design for the few to production design for the many."

* *

Flaws in U. S. Personal Aviation Sharply Outlined by Clinic Speakers

Shortcomings in airport operation, flight instruction, plane design and federal regulation stressed in outlining course private flying must follow to reach mass acceptance.

Skeletons in the closet of today's personal aviation rattled vigorously last week at the National Aviation Clinic at Oklahoma City. As speakers and floor discussion presented a well-rounded realistic criticism of the shortcomings in airport operation, number of airports, flight training, personal plane design, and governmental regulation which must be corrected before mass public acceptance of the personal plane can be achieved.

Most thought-provoking to the many private plane manufacturers at the clinic was the discussion by James R. Harrington, Mansfield, Ohio, flight school operator, on necessity for correcting plane designs for easier ground handling, better visibility and ease of control.

▸ **Criticism** — Harrington blamed much of the difficulty in flight training on poor ground-handling characteristics of today's plane.

"It takes as much time to teach a student to taxi a plane as to fly one," he declared. He urged redesign of planes to make them handle as easily on the ground as an automobile, and called for redistribution of weight to prevent turnovers on the ground. He also urged further simplification of controls.

▸ **Regulatians** — Wolfgang Langiewiesche, pilot, author and consultant to the Personal Aircraft Council, expressing hope that the recent trend toward simplication of civil air regulations would continue, declared the existing regulations "are still the greatest single hindrance to the growth of private flying, next to the law of gravity itself."

"The bulk of our regulations is set up so that you must at every turn, prove positively your compliance with the regulations. It is as if you had to go to the district attorney every three months to prove you hadn't stolen anything."

▸ **Complications** — He attacked specifically the complications of licensing airplanes, and pilots as unnecessary CAA duplication. "If a licensed mechanics' OK isn't good enough, what's the purpose of licensing mechanics? If CAA licenses the instructor, then why must the product (his student) be tested again by CAA?" he asked.

He called for "withdrawal of the protection of the government from the private pilot's passenger." Anyone who rides with a private pilot should do so at his own risk and until that situation exists, CAA will still have to interest itself in every detail of most flights, he pointed out. Langiewiesche also criticized CAA regulations of flight technique as freezing progress in private flying. If it had not been for the spin requirements in the private pilot license test, now somewhat changed in the new regulations, he believes that all our small airplanes would long ago have berome practically unspinnable, in design. The test requirement was the only thing which interfered.

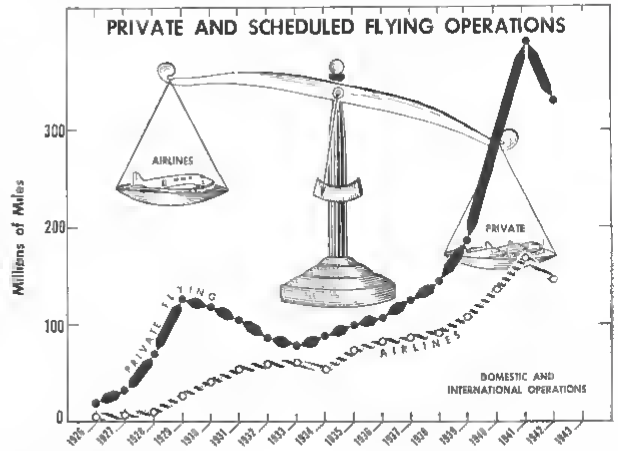
▸ **Appeal**—An appeal to CAA Administrator T. P. Wright, CAB chairman L. Welch Pogue, CAA Safety Director Fred Langer and Airport Section Chief Charles Donaldson to spend "a couple of weeks out in the grass roots" with private flyers, airport operators and private plane dealers, was made by Arthur I. Boreman, Des Moines. Government officials would get a much clearer picture of the needs of private aviation and would raise their sights on the future of private flying as the result of such a trip, he forecast.

He predicted they would come to these conclusions:

▸ The big market for personal planes will be among farmers, salesmen, executives, lawyers, business men and doctors between 30 and 60 years old.

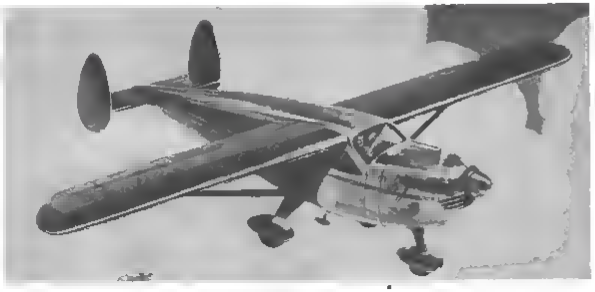
▸ There is a big market for personal aircraft in towns below 10,000 population, especially in the Midwest. There are 10,000 of such towns.

▸ That the prime requirement for development of personal aviation is establishment of at least one



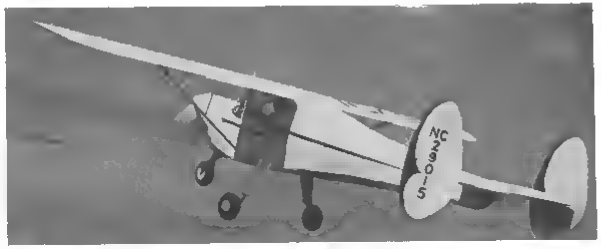
MILES FLOWN:

This comparison of private and scheduled flying prepared by CAA, shows a sharp increase in mileage flown by private planes pre-war, up to a maximum of 346,303,400 miles, as compared with a peak of 148,211,544 miles flown by airlines the same year. The chart does not show war years, but is an indication of how private flying expansion may be expected to continue.



POST-WAR AND PRE-WAR *SKYFARERS:*

Redesign of the spinproof pre-war Skyfarer *into a new, more streamlined all-metal version has been announced by Tennessee Aircraft Inc, Nashville, Tenn, division of General Aircraft Corp Sketch of the all-metal post-war* Skyfarer *is shown above in contrast to the flight picture of the fabric-steel tubing plane below, which was one of two CAA-approved pre-war spinproof types.*



airfield adjacent to every incorporated town of which there are 16,000 in the U S, plus about 4,000 other landing fields in emergency areas.

Boreman urged formation of a committee representing a wide spread of national organizations and interests to convince Congress of the need for legislation to implement such an airfield program.

▸ **Facilities Hit**—Stinging criticism by John Paul Jones, Des Moines private pilot and attorney, regarding the lack of minimum facilities at the average private airport, aroused cheers from the private flyers gallery as he listed an imposing bill of particulars about dirty airports, poor sanitary facilities, lack of service and poorly kept up rental planes Jones quoted his wife, who has been his frequent companion on plane trips, as his authority on the insanitary conditions

We must have facilities at the airport where my wife or yours can powder her nose without having to hold it at the same time, he warned airport operators

▸ **Question** — Asked by William Ong, Kansas City, in the discussion which followed, whether there had been much improvement in airports recently in regard to rest rooms, Jones again quoted his wife as saying, "We now know about one more clean restroom in addition to the one we found sometime ago They are improving only very slightly."

Asked by a municipal airport spokesman if a landing fee for private pilots would finance improved airport facilities, Jones spoke in behalf of hundreds of thousands of private pilots saying that that they would not patronize airports charging landing fees.

▸ An aviation insurance spokesman added to the discussion that much of the high cost of aviation insurance was due to poorly maintained airports with fire hazards and failure to care for planes properly. He urged a cleanup of airports as a move toward reduced insurance rates

▸ **Instruction**—Flight school operators are gloomy about reducing costs of flight instruction, blaming high maintenance cost and high insurance costs, William Strohmeier, New York private pilot and public relations writer told the clinic He urged the purchase of an airplane as the most practical solution for the average person wishing to learn to fly, and development of flying clubs as the second best solution

▸ Prediction that enlightened and less restrictive federal regulations, greatly improved production facilities, the now apparent market and a curb on misleading advertising would combine to bring safely designed planes within reach of the man in the street was made by Al Mooney, Culver Aircraft chief engineer, at the end of an historical summary of aircraft design problems since World War I days

He spoke against arbitrary limitations through common performance requirements except for standards pertaining directly to safety, such as stall control, structural inspection visibility and reliable power plants.

Lightplane Firm Formed in Tacoma

Organization of a lightplane producing firm in the Pacific Northwest by two former Boeing employees has been announced in Tacoma, Wash. Two experimental models now are underway and final tests are expected to be completed in eight to 12 months.

Known as Puget Pacific Planes, Inc., the firm is headed by John A Edman, president and Donald J Wheeler, chief engineer It really got its start last year when a plane designed by Wheeler won a contest sponsored by a national magazine This design, with modifications and improvements, will be one of the three models which the firm intends to produce

▸ **Design**—Known as the *Wheelair* Model III, it is a twin-boom, single-engine pusher with a capacity of four passengers. Other data: cruising speed, 115 mph; top speed, 130 mph, landing speed, 45 mph; wingspread, 37 ft.; power, 125 hp engine, tricycle landing gear.

Other projected models are a two-passenger coupe and a six-passenger executive model. The latter will be powered by two 125 hp. engines, have retractable landing gear and a top speed of 190 mph.

The firm's plant in Tacoma will be housed in a factory for which plans now are being completed. A crew of six already is engaged in preliminary engineering work.

Texas Field Offers Low Flight Rates

Dallas operators charge $50 for ten hours of dual instruction, $40 for ten hours of solo.

A special low flight rate to beginners of $40 for ten hours of solo or $50 for ten hours of dual instruction, is bringing large numbers of new flight students to Lou Foote Airport, five miles from Dallas, Texas, city limits

Besides operating an air college, complete with barracks for students, Lou and Gene Foote, owners and operators of the field also have an airport restaurant and provide overnight accommodations for visiting flyers and a bus which will take the flyers into Dallas at any time of day or night

▸ **Experienced**—Their present field is their third operation in the Dallas area They were at Love Field, Dallas, until the city moved them to make room for additional buildings. Then they had a field at Grand Prairie, midway between Dallas and Fort Worth, until the Navy bought it for training purposes

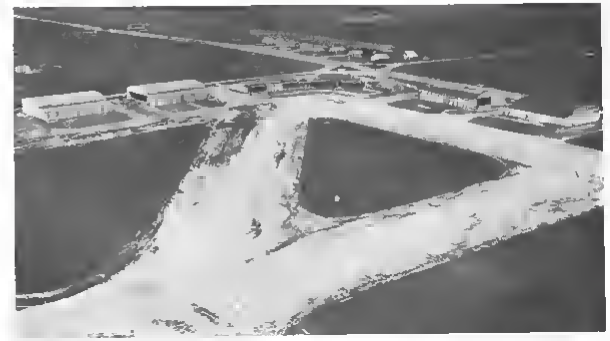
The present field has five all-weather runways averaging about 3500 ft, four 80 by 120-ft hangars, a restaurant and kitchen, a barracks, and an artesian well with a 33,000-gallon underground tank for fire protection

One of the hangars is used for repair and storage of their own planes, eight Piper J3s, a Rearwin *Sportster* and Rearwin *Skyranger*, while two other hangars are used for rental storage, and the fourth is leased by an independent group of aviation mechanics.

▸ **Staff**—The air college has a full-time ground school instructor and four flight instructors, two of them women. Approximately a dozen students are living in the barracks at the airport, to put in full time on flight courses for private and commercial licenses.

The low special rates to beginners so far have paid off, Lou Foote reports, in an increased volume of flying time on his equipment, and in creating new customers for plane sales

▸ The moderate cost idea is also extended to restaurant prices, with a weekday meal at 50 cents and a Sunday meal at 75 cents. As a result the restaurant not only serves the flyers but attracts a considerable trade from residents and business people in the airport area.



Foote Airpart: *Aerial view of the Lou Foote Airport, near Dallas, shows the four hangars, restaurant, administration building and barracks, and the all-weather runways. The Foote Flying Service and Aviation College is conducting an interesting test of attracting mass interest to aviation by low-cost flight instruction for beginners.*

Stinson Cuts Down Noise In *Voyager*

One of the best illustrations of a new trend toward reduction of noise, both internal and external, in private airplanes, for the greater comfort of the flyers and the surrounding public, is the sound-level reduction job which Stinson division of Consolidated-Vultee Aircraft Corp, Wayne, Mich, has done with its new four-place *Voyager 150*.

First mentioned in AVIATION NEWS Oct 15, the soundproofing on the Stinson includes both an internal blanketing of the cabin with fireproof fiberglas insulation material, completely covering the cabin except for the windows, and dual engine mufflers The mufflers are surrounded by heater jackets. These take heat to warm the cabin from the left bank of cylinders, and heat for the carburetor to prevent carburetor icing from the right bank of cylinders.

▸ **Demonstration** — The engine muffler job was demonstrated to an AVIATION NEWS representative during a recent visit at the Wayne plant The *Voyager 150* flew over at low altitudes and although the plane is equipped with a 150 hp engine, the sound seemed much lower in intensity than the racket kicked up by a 65-hp conventional two-place plane The advantages in eliminating "airplane noise nuisance" complaints from persons living near airports are obvious.

A main purpose of the new soundproofing on the *Voyager 150* is to make possible the installation of a dome loudspeaker in the cabin, for the radio receiver, taking the place of the uncomfortable headphones, heretofore a requirement for most private planes with radio equipment.

The tiny dome speaker, installed near the pilot's head, will bring the pilot both aircraft and commercial broadcasts on the small General Electric receiver. For "diehards" who still insist on headphones, the set is equipped with a jack on the panel, to plug in the phone connection.

▸ The radio equipment also includes a transmitter which is tuneable from 2600 to 7000 kilocycles, while the receiver is equipped with both conventional and loop antennas

Lee Koutz, Former WASP, Takes Bendix Sales Post

Appointment of Lee Koutz, former WASP, as a member of the Bendix personal aviation radio sales staff, has been announced at Baltimore. Her first sales assignment will follow completion of a research assignment A licensed pilot since 1940, Miss Koutz formerly attended the University of Maryland and the University of Baltimore. She was employed at Glenn L. Martin Co in job evaluation and sales work before joining the first WASP training contingent.

Pilot Errors Blamed For Four Accidents

Pilot errors, through reckless flying or faulty judgment, were blamed for four out of five aircraft accidents investigated by the Civil Aeronautics Board. Wing failure during an acrobatic maneuver caused the other.

Briefs of the accidents and CAB findings follow:

PENDLETON, ORE.: Private Pilot Ray Eddy Fayne, 37, (73 solo hours), and his wife sustained minor injuries and Student Pilot Weber J. English, 40, (26 hours flying time) was seriously injured as a result of a landing collision at Pendleton Airways Field, April 13, 1945, when the two aircraft were landed in opposite directions on the east-west runway. English landed toward the east in a Piper J5C-65 and Fayne landed toward the west in a Taylorcraft BL12-65 and the two aircraft met head-on. During Fayne's absence from the field the management had turned the manually-operated tee in the opposite direction on the airmail that it was better to land toward the east with a light wind than toward the west into a low glaring sun.

CAB FINDING: Probable cause of accident was the action of the Taylorcraft's pilot in landing against traffic.

PORTLAND, ORE.: Commercial Pilot David Dale Huntley, 28, Spokane, (894 solo hours), was injured fatally while on a cross-country flight when the Culver LFA in which he was flying collided with a power line guy wire near Troh's Airport, May 7, 1945. Huntley took off from Eugene, Ore., on the final leg of a cross-country flight from Los Angeles to Portland. When just beyond Troh's Airport, at an altitude of about 300 feet, he closed the throttle and made a gliding turn of 180 degrees. He then increased the steepness of the turn and made several "S" turns. Following this the plane struck and severed a horizontal guy wire 25 ft. above the ground and crashed in the middle of a road. It is thought that the pilot was attempting a precautionary landing because of low fuel, and that morning mist and smoke obscured nearby Troh's Airport.

CAB FINDING: Probable cause of accident was failure of the pilot to see and avoid wires while effecting a precautionary landing.

TIPTON, CALIF.: Student Pilots Paul Goodson, 21, Los Angeles (45 hours flying time), and Mervin Luther Smith, 25, Tipton, (30 hours), were fatally injured when reckless flying in a Fairchild M-62A resulted in a stall and spin, June 3, 1945. Goodson and Smith took off from Whiteman Air Park San Fernando, for a cross-country flight to Fresno. Smith occupied the front seat, normally that of the pilot. When the aircraft arrived over Tipton a dive was made on the home of a friend of Smith's. The plane was then pulled up in a steep climb to about 800 ft. altitude. Here a left turn was started during which the aircraft was stalled. It made about one-fourth turn of a left spin before striking the ground on the nose and left wing. Investigation revealed no evidence of malfunctioning of the aircraft. Goodson had been listed as pilot on the previously filed flight plan.

CAB FINDING: Probable cause of accident was reckless flying which resulted in an inadvertent spin from which recovery was not effected.

MOORE HAVEN, FLA.: Commercial Pilot James Edward Mitchell, Tampa (2,655 hours, including two and one-half hours of eight flying), and three revenue pilots were fatally injured when the pilot's Stinson SR-9A crashed in the Florida everglades during a cross-country night flight, June 1, 1945. Mitchell took off from the Tampa Airport for a charter flight to Miami, 204 miles distant. Weather conditions were given as: Overcast, visibility four miles, light smoke, wind west eight mph., smoke layers aloft. There were no radio contacts with the flight. Two days later the wreckage was located from the air near Lake Okeechobee about 112 miles from Tampa or on a almost direct line between Tampa and Miami. Examination of the wreckage disclosed no mechanical failure of the aircraft prior to the accident. It struck nose-first in an almost vertical attitude at an exceptionally high rate of speed.

CAB FINDING: Probable cause of this accident was loss of control of the aircraft while attempting a cross-country night flight under conditions in which the pilot was not qualified.

Briefing *For Private Flying*

Advantages of the transport-type business airplane to the major industry executive as a personal means of transportation were demonstrated last week to a small group of aviation writers who were guests of Jack Frye, TWA president, in a flight from Washington to Oklahoma City to the National Aviation Clinic, in the Lockheed *Lodestar* transport which the company has assigned for his use in first-hand research on new equipment and for his personal transportation. While not every big executive would have the service and maintenance facilities of a major airline at his disposal, it is probable that there are several hundred executives in this country if not thousands, who could make an executive air transport, with a cruising speed at least equivalent to air line block-to-block speed, pay for itself in timesaving. It is known that a number of companies in widely varied industries are buying some of the middle-sized transports placed in surplus for the use of their executives and that several aircraft service operators, particularly on the West Coast are doing a thriving business in refitting these planes for the needs of businessmen. However the number of planes now being used in this manner is only a small fraction of the potential market.

FLYING WEATHER—Southwestern flying weather was beautifully evident during the Oklahoma City clinic and more than 100 planes flew into surrounding airports for the meeting. Typical of the businessman flyer who is becoming a stabilizing influence in private flying and demonstrating its practicality was Henry Kaag, motion picture producer and director, who pilots his own plane for business trips all over the country.

SOLO VACATION—Bill Strohmeier, New York veteran private pilot and writer, suggests a solo vacation at a flying resort as a good way for the average individual to learn to fly. If a man can take a week off and spend it at a resort airport where he can take a couple of lessons a day in the morning and late afternoon he won't get rusty between lessons and he can solo easily in a week's time without crowding his lessons too much. Strohmeier, in his paper at the Clinic, pointed out that the average busy person is extremely lucky if he can find two periods in a week to get in an hour of flying time. Weeks drag by before he even soloes and more months before he gets enough solo time for a license, but the slowest part of the grind is the period before solo.

TRAINING DEVICES—As another suggestion for speeding up training Strohmeier called for development of a simulated flight trainer to give a student some really beneficial preflight training, simulating landing conditions which now require hours of trial-and-error flight practice for many students. Such a device would overcome much of the initial solo problem he believes, and in view of some of the training devices developed for military aviation training, he believes it is quite possible to develop it.

—Alexander McSurely

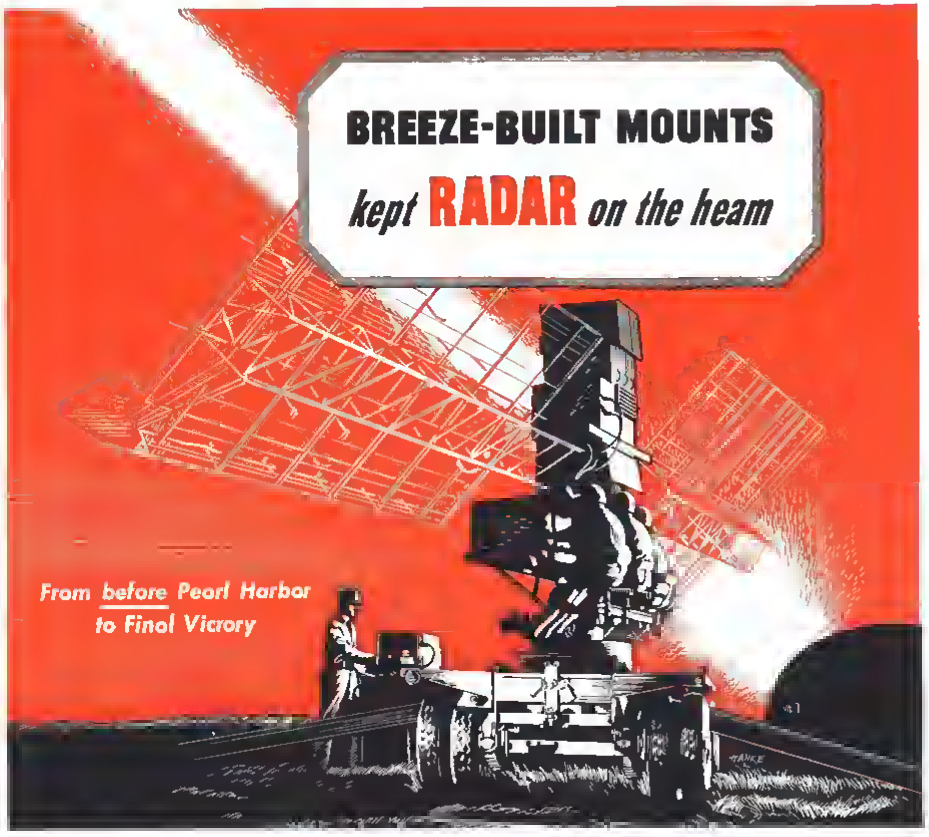
CODY, WYO.: Commercial Pilot Charles Lee Murray, 32, Durango, Colo. (1,600 solo hours), and his passenger, John S. Kloss, 41, Cody, were fatally injured when failure of a wing of a Fairchild 24 C8-E during an abrupt pull-up from a dive resulted in a crash, Oct. 24, 1943. Kloss, a drilling superintendent for an oil company, had chartered the aircraft to expedite his return to his company's office at Cody. At the end of the flight from Vernal, Utah to Cody, 254 miles distant, Murray started a left spiralling descent over the oil refinery where Kloss was employed. About 500 ft. above the ground a short power dive and an abrupt pull-up were followed by a left turn which became progressively steeper until it developed into a spin. During the spin objects fell from the plane and a large portion of fabric from the top surface of the left wing was seen flapping in the wind. After completing about two turns of a spin the plane struck and severed two wires of a power line and crashed to the ground.

CAB FINDING: Probable cause of this accident was failure of the wing during an acrobatic maneuver, possibly due to inadequate repair.

New Orleans Council Gets Airpark Plans

Complete plans for four airparks to be located within the city limits have been presented to the New Orleans Commission Council.

The blueprints were presented by L. P. Weill, manager of the New Orleans Flying Club, and Doug Wagstaff, director of the City Airport Commission. The lightplane parks would be located in the suburban Gentilly and Metairie sections and in the uptown and downtown mid-city districts.



Now, for the first time, it can be told . . . the story of how Breeze built mechanical precision into electronic vision for the U.S. Signal Corps . . . to keep radar accurately beamed . . . to put guns on target . . . and to blast enemy aircraft out of the skies.

Pioneered in the late 1930's, the Breeze Mobile Antenna Mount for anti-aircraft radar was in the war from before the start to the finish. It was a Breeze-Mounted radar set that detected the Japanese sneak attack on Pearl Harbor on December 7, 1941. Rushed to England in the worst days of the war, Breeze-Mounted radar first helped to keep Hitler out of London; later reduced buzz-bomb effectiveness by 75 per cent.

Before Victory was won, thousands of Breeze-built Mounts were produced and delivered—in time and on time to every theatre of war. This production record, backed by product performance, offers further convincing evidence of the wide range of Breeze "know-how". Listed below are other Breeze products which have made the Breeze Mark the mark of dependability the world over. The diversified skills and facilities which enabled Breeze to build these precision items in huge quantities for war are now available to other manufacturers for peacetime production. Perhaps Breeze can solve that complex production problem for you. For a complete analysis and recommendation, call in a Breeze Engineer.

BREEZE

NEWARK 7, BREEZE MARK NEW JERSEY

CORPORATIONS, INC.

BREEZE PRODUCTS AND SERVICES: Radio Ignition Shielding for Radio Noise Suppression • Flexible Shielding Conduit and Fittings • Multiple Electrical Connectors • Aircraft Tab Control Systems • Internal Tie Rods • Flexible Shaft and Case Assemblies • Cartridge Engine Starters (Manufactured under Coffman patents) • Flexible Metal Tubing • Heat Treating • Metals Fabrication • Armor Plate • Bookstacks

1,000,000 Personal Planes In 1955 Seen By WPB Expert

Approximately 2,800,000 families will be able to afford them, study made for CAA indicates; expansion of auto market in early years is cited.

Operation of 1,000,000 personal planes in the United States by the end of the first post-war decade is entirely feasible, it is predicted by Victor Perlo, chief of the industry research branch, bureau of program and statistics, War Production Board.

Perlo bases his conclusion on a study which he has made for use of the Civil Aeronautics Administration, which indicates that approximately 2,800,000 families or one quarter of the number expected to be in the $5,000-and-over income bracket, will be able to afford airplanes easily within the first post-war decade.

▸**Comparison**—The WPB analyst draws a comparison between the personal plane and the automobile in its early years.

He points out that in 1902 there were 23,000 registered passenger autos in the United States, approximately the same as the number of registered airplanes in this country in 1941. By 1912 the number of registered autos had expanded to more than 900,000. He believes that under proper conditions the post-war expansion of airplane use will be equally rapid. His survey is based on the premises that the government will give full support to aviation through airports and other assistance, that the aviation industry will continue its enterprise and that continuous full employment will be maintained.

▸**Price Decline**—Price of the desirable private airplane will be reduced by large-scale production to approximately $2,000 by 1955, the analyst expects. He expects most airplane users to own automobiles also, for which he estimates a price of $800. With full employment he expects the average income of a gainfully employed person in 1955 to be $2,850.

Perlo calculates a total operating cost for both auto and family-sized airplane of $1,200 a year including $200 for depreciation of the plane. Of this amount $400 is figured for the cost of operating the auto, a reduced cost from the $500 now frequently used as a year's cost for automobile operation. The reduction is made because additional use of the personal airplane is expected to cause less use of the automobile.

▸**Best Type**—The analyst believes the four-place family type plane will have the best sales, but that many families not able to afford this vehicle will purchase smaller two-seat planes, and that these will make up several hundred thousand of the total number in use.

Since the United States will be the only country with the possible exception of Great Britain, producing private planes on a mass-production low-cost basis, it is anticipated that most foreign purchases of private planes will be made in this country. The automobile sales figures showed 8 per cent of all U. S. passenger cars marketed went overseas. The foreign market for personal planes is expected to be at least as large, percentage-wise, according to report.

▸Perlo concludes that there will likely be from 1½ to 2 million likely users of personal planes, but reducing his estimates, because all of the assumptions necessary may not be fully realized, he finally arrives at the figure of 1,000,000 personal planes, which he says can be confidently expected if the full government program in support of aviation is carried out.

Portland Lumber Firm Seeks To Open Field

The Southeast Portland Lumber Co. has asked the city council for permission to make its 1,600-ft. airstrip at 6637 S.E. 100th Ave., Portland, Ore., available to the public. A recent city ordinance makes such permission necessary.

E. C. Dwyer, president, said that, if the city approves, individual hangars will be built on request and gasoline and other facilities will be provided. There is space available for 200 individual private hangars at the field.

▸**Commuter** — Dwyer has purchased a plane and intends to construct another landing strip near the company's logging operations in the Fisher Creek area on the Upper Clackamas river in Oregon so he can commute by air.

AERONCA GOES TO MOVIES:

A theater-going Aeronca Champion tandem lightplane, moved into Washington last week to take a vantage point on the marquee of a theater on the main business street. The plane is grand prize in a Victory bond contest conducted by the theater.

Fly-Ur-Self System Continues Plans

National Fly-Ur-Self System, Inc., headed by Howard T. Ailor, has opened New York offices in the Woolworth Bldg., 233 Broadway, as it continues preparations for opening its national airplane rental and charter service.

The organization which will have affiliated air bases scattered throughout the country owned and operated by returned veterans and other aircraft service operators now established (AVIATION NEWS, July 9) plans to use two-place and five-place planes of standardized design, developed especially for the service.

▸ **Low Cost**—Ailor, who before the war headed Ailor Fly-Ur-Self System at Roosevelt Field, N. Y., the largest charter and rental operator in the country, expects the standardized planes to make operation simpler and less costly for the customer. Charges will be based on the time flown between bases of the system, so that the customer can deliver the plane at any system base and need not return it to his starting point.

Course for Teachers

Link Aviation Devices, Inc., is conducting a two-month refresher at its Binghamton, N. Y. plant for former high school teachers recently discharged from the armed services who want to use their aviation experience in teaching. The course is the first of a series planned by the training device manufacturer, for similar groups.

Most of the enrollees were pilots or Link trainer instructors in the air forces, and as such were concerned with more advanced phases of aviation. The Link course seeks to refresh the teachers on aviation fundamentals for teaching high school students. Besides instruction on how to use the Link trainer as a demonstration unit in subjects related to flying, the course includes an introduction to aviation social studies. Subjects considered include: Living in the Air Age, How an Airplane Flies, How an Airplane is Flown, Aircraft Structures, Weather, Power, Navigation, Air Traffic, and Communications.

Instrument Costs Cut By Kollsman

A new line of lower priced aerial navigation and engine control instruments announced for personal planes by Kollsman Instrument division of Square D Co., is expected by the firm to make instrument flight available to many pilots formerly unable to afford adequate equipment.

The new instruments, known as the Kollsman *Scout* line, will lower almost one-half the investment in instruments, according to Victor E. Carbonara, vice-president of Square D. The line includes standard altimeters, sensitive altimeter, airspeed indicator, large and small compasses, vertical speed or climb indicators, manifold pressure gages and tachometers.

▸ **Economy Step**—The reduction in price has been achieved partially by eliminating the performance requirements of military and airline services for extremely high and low temperatures to which the personal plane will not be subjected. The company continues to offer its standard line of instruments for military and airline planes.

Included in the *Scout* line of personal plane instruments all of which are radium treated and react to fluorescent (black) light, are:

▸ Standard altimeter (0-20,000-ft.) single pointer, one revolution per 10,000-ft., stationary dial, settable pointer and barometric setting subdial. Fits 3⅛ inch mounting hole. Price $24.

▸ Sensitive altimeter, same range, two pointers, one revolution of long pointer for each 1,000-ft., 20-ft. graduations. Settable pointers, barometric setting subdial of 28-31 inches of mercury range. Fits 3⅛ mount hole. Price $70.

▸ Air speed indicator, standard type, pitot and static connections, offered in three ranges, 30-160-mph., 30-200-mph., 30-250-mph. Fits 3⅛ inch mounting hole, weight, 8 ounces.

▸ Small compass, standard floating card type compass, with convenient NS and EW compensating screws accessible from front. Weight, 9 ounces. Price $24. Fits 2¼ inch mounting hole.

▸ Large compass, similar weight, 15 ounces, fits 3⅛ inch standard size mounting hole. Price $30.

▸ Vertical speed (climb) indicator. Range 0-2,000 feet per minute up or down, fits 3⅛ inch hole, logarithmic scale with widely spaced graduations near level flight point and closer graduations near scale limits. Compensated for temperature effects on mechanism but not for altitude and temperature compensation or thermal insulation. Weight 17 oz. Price $50.

▸ Manifold pressure gage. Range 10-50 inches of mercury, standard single pointer. Compensated for temperature changes. Price $30.

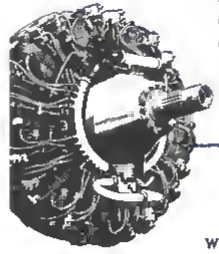
Also in process of development for the *Scout* line are fuel pressure gages, oil pressure gages, thermometers, and engine gages.

The new line is being produced at Kollsman, Elmhurst, N. Y.

NEW NASAO OFFICERS:

New officers of the National Association of State Aviation Officials, elected at the recent St. Louis convention are shown, left to right: Leo G. Devaney, director, Oregon State Board of Aeronautics, vice-president; Edward F. Knapp, director, Vermont Aeronautics Commission, secretary and treasurer; William L. Anderson, executive director, Pennsylvania Aeronautics Commission, president, and C. F. Cornish, Indiana aeronautics director, vice-president.

Cyclone 18 power, proved by ten million hours of operation for war, is now the first choice for flight on peacetime international trade routes. Eight airlines, operating in commercial competition between every major nation of all continents, have chosen to fly the Wright Cyclone-powered Lockheed Constellations. The power of the Cyclone 18 enables the Constellation to reduce transoceanic fares and yet cut costs, to increase speed and still carry greater payloads. This performance, linked with Cyclone reliability, made it aviation's first choice as war's end brings commercial engines back into production again.



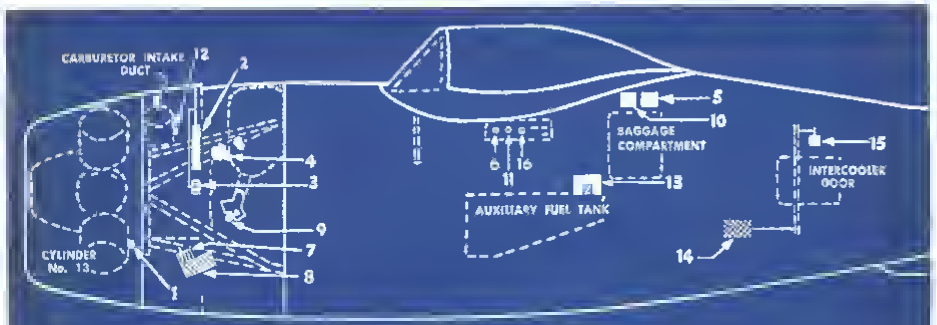
WRIGHT Aircraft Engines

AIR POWER FOR A WORLD AT PEACE

Wright Aeronautical Corporation, Paterson, New Jersey, U.S.A. • A Division of Curtiss-Wright

G-E AUTOMATIC TEMPERATURE CONTROL PUTS AN END TO EXCESSIVE FLAP DRAG

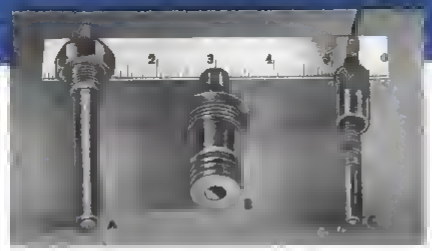
Only 4.6 lbs added... up to 40 mph regained



APPROXIMATE LOCATION OF HEAT-CONTROL UNITS

No.	Name	No.	Name
1.	Thermo-sensitive element — cowl flaps ion cyl. No. 13!	10.	Oil-cooler control box
2.	Cowl-flap cylinder	11.	Oil-cooler switch
3.	Follow-up rheostat — cowl flaps	12.	Thermo-sensitive element — intercooler doors
4.	Electro-hydraulic valve — cowl flaps	13.	Intercooler control box
5.	Control box — cowl flaps	14.	Intercooler motor
6.	Cowl-flap switch	15.	Intercooler follow-up rheostat
7.	Oil-cooler follow-up rheostat	16.	Intercooler switch
8.	Oil-cooler motor		
9.	Thermo-sensitive element at "Y" drain — oil cooler		

Diagram shows the location of components in a typical application of G-E temperature control. Controllers (the only heavy components) can be located almost anywhere in the ship. All components except thermal elements are interchangeable. The system operates on 24 volts d-c.



The thermo-sensitive elements include: A, used for oil or engine coolant; B, for carburetor air; C, for engine head. The small size of these elements facilitates their location where space is at a premium.

PILOTS FREE TO CONCENTRATE ON FLYING

PILOTS shouldn't have to be continually adjusting the position of cooling flaps and exit shutters. Yet, in the past, that was the only way they could minimize drag consistent with engine cooling requirements The tendency was to play it safe, leaving flaps and shutters open wider than necessary. The resulting drag caused as much as 10 per cent loss of speed on a 400-mph ship.

It's a different story now, because of G-E automatic temperature control!

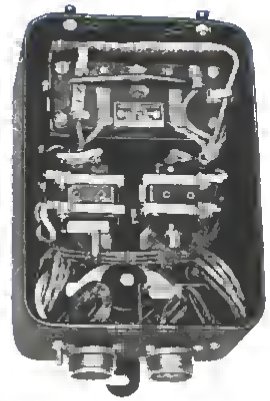
Employing a remarkable new temperature-sensitive material, General Electric has developed a system that *automatically* positions flaps to maintain the most efficient temperature of engines, oil, carburetor air, and coolant. Excessive drag is avoided. So is the danger of overheating. The pilot can devote *all* his attention to other duties.

LIGHT WEIGHT

This new G-E system involves but a slight weight penalty: only 4.6 pounds in the case of engine-head temperature control. It holds temperature accurately, without hunting. It is flexible, being adaptable to almost any type of temperature control, and is easily applied because all components are interconnected electrically.

G-E automatic temperature control is used on important planes now in production, and will be installed on several other new fighter, bomber, and cargo ships. It should be a "natural" for postwar commercial planes from the standpoints of both fuel economy and freedom for pilots.

May we tell you why automatic temperature control and other G-E pre-engineered systems for aircraft can mean substantial savings in engineering man-hours and assembly time for you? *General Electric Company, Schenectady 5, N. Y.*



The heart of the new system is this G-E developed controller. A highly sensitive, polarized relay (in top of case) responds to the signals from the thermo-sensitive elements, energizing power relays (below). The power relays then actuate the flap motor to open or close the flaps. The rate of response is extremely rapid, and the follow-up principle employed insures positive operation without hunting.

Buy all the BONDS you can —and keep all you buy

PRECISION PRODUCTS & ENGINEERED SYSTEMS FOR AIRCRAFT

GENERAL ELECTRIC

Canard Aircraft Principle Regarded As Valuable in Transport Design

Long obscure patent, similar to others later assigned to Lockheed, is viewed as one answer to problem of long driveshaft in such planes as DC-8.

Were it not for World War II, Lockheed Aircraft Corp probably would have had in flight by today a 40-passenger canard transport.

Although the project has been shelved by Lockheed for the time being, qualified aircraft engineers believe the canard principle still holds possibilities of development in transport aircraft.

Britain's recent experiment with small canard types, and Curtiss-Wright's canard fighter, the *Ascender*, undoubtedly have provided research groups with performance data that will influence further study of canard transport designs.

▸ **Obscure Patent**—The heretofore-obscure 1935 patent (No. 2,003,206) of a Los Angeles aircraft engineer, William L. Lewis, warrants renewed study in the light of Douglas Aircraft Company's DC-8 pusher transport design using propellers extending from the tail of the fuselage.

Airline engineers have questioned the placing of DC-8 engines in the nose section of the transport and running drive shafts the length of the fuselage to the propellers in the tail.

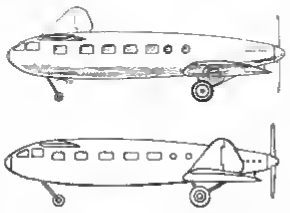
The Lewis canard patent offers a solution of what some view as a "drawback" by mounting the engine in the extreme tail area of the fuselage with a short-direct link to propellers.

▸ **Advantage**—Lewis began his aviation career with the Lewis & Vought Corp., now Chance Vought Aircraft, after World War I, and has held engineering development positions with Douglas, Boeing, Northrop and other major aircraft manufacturers. He believes that flight characteristic problems of the canard may be more than offset by advantages of engine placement, cabin noise reduction, and the offering of a wing unencumbered by engine nacelles.

Lockheed Aircraft Corp. was committed to an intense and secret canard research program in 1939, when C. L. "Kelly" Johnson, chief research engineer, obtained and assigned to the corporation a design patent (No. 116,094) for a two-engine canard transport. The plane would have mounted its engines conventionally in leading edge wing nacelles. Shortly after issuance of the patent the company held a series of conferences with airline engineers on the design, which was to be shelved by the more immediate projection of the Constellation and the World War.

▸ **Bomber Design**—One year later, with attention switching suddenly to new military designs, Johnson and Ward W. Beman, now chief of aerodynamic design, were awarded Design Patent No. 119,334 covering a radical canard twin-engine bomber, with engine nacelles mounted in the trailing edge of the wing, and vertical stabilizers mounted at the wing tips.

The sharply swept back wing of the design is of interest in the light of German application of the principle to supersonic rocket plane designs (Cover, AVIATION NEWS, Aug. 27, 1945) under development at the end of the war. The Johnson-Beman patent was assigned to Lockheed Aircraft Corp.



Canard Designs: *Two patents issued to William L. Lewis, Los Angeles aircraft engineer, are for craft with powerplants in the rear. One has its rudder mounted forward on the fuselage, the other calls for twin rudders mounted outboard on the wings.*

▸ **Nazi Plane**—Lockheed's file of canard patents was increased two years later, on Jan. 27, 1942, by the assignment of a patent issued to C. L. Johnson covering a control system for incorporation in canard type aircraft.

Because there is so close a resemblance to the configuration of the German Jaeger P-13 athodyd jet fighter design, which was under wind tunnel test when the war ended, a United States patent (Design Patent No. 133,670) issued Sept. 1, 1942, to Richard E. Metz is as interesting today as it was apparently hopelessly radical at the time of issuance. Viewed from above, the Metz design has strict resemblance to a folded-paper toy "dart" glider. Yet the wing of the P-13 has a sweepback almost as pronounced as that in the Metz design.

Test Device Available

A fee of $100 a day has been set by Civil Aeronautics Administration for testing airplane windshields for resistance to collision with birds in flight. CAA has at its Indianapolis experimental station a pneumatic gun which shoots carcasses of chickens at speeds up to 500 mph. The tester, with CAA operators, now will be available to windshield manufacturers.

AIA Retains Wilner, Keane As Readjustment Aides

Morton H. Wilner and Michael J. Keane Jr., have been retained by the Aircraft Industries Association as consultants on readjustment problems.

Wilner was deputy director, aircraft division of the War Production Board from Dec. 1944 until shortly after V-J Day. Previous to that he was an AAF major serving as executive officer of the Readjustment Division of the Air Technical Service Command. Also an AAF major until recently, Keane served as assistant to Brig. Gen. F. M. Hopkins, Jr., ATSC, on termination problems. Prior to that he served with the 5th Air Force in the Pacific.

Keane and Wilner are managing the Washington law office of Weil, Gotschal and Manges.

AVAILABLE TO OPERATORS OF LARGE AND SMALL AIRCRAFT

A superior, solvent-processed lubricant, D-X Aviation Oil was manufactured to meet the specifications of Army and Navy grades 1065, 1080, 1100, 1100p and 1120 aircraft engine lubricating oil. Characteristics include maximum resistance to carbon, sludge and lacquer formations, and maximum power performance. Refined from selected paraffin base crudes, its enduring film strength provides complete lubrication. D-X Aviation Oil, with inherent chemical stability, increases hours between overhauls, helps prevent loss of power, keeps valves free-acting. Your inquiry invited.

MID-CONTINENT PETROLEUM CORPORATION
TULSA, OKLAHOMA

ADJUSTMENT IS AUTOMATIC

—on the great Goodyear Single Disc Brake

PILOTS everywhere are praising Goodyear's new Single Disc Brake with Automatic Adjustment because of its many advantages. This recent development of Goodyear's 36 years' experience in aviation combines light weight with high efficiency and requires absolute minimum servicing. By design and construction, this brake needs no initial adjustment, no "wearing-in" period, nor any take-up during the life of the lining.

Particularly important for light-plane owners to whom plane-maintenance is a problem, the Goodyear Single Disc Brake with Automatic Adjustment represents freedom from an annoying chore. For commercial operators, the brake means lessened shop costs.

An ingenious compensating mechanism within the brake keeps clearance constant and uniform as the lining wears down. Pilots like the steady "pedal feel"—braking pressure is always the same. Moreover, its design utilizes slipstream-cooling on the brake disc to eliminate overheating of tires, tubes and brake linings. Powerful and rugged, the new Single Disc Brake has so few parts it gives the lightest-weight brake-wheel-unit per foot-pound of energy capacity and is simple to install and refine.

This self-adjusting brake is fully approved in both hydraulic and mechanical types, and is winning high favor on small, medium and large aircraft. Whether you choose it or its time-proved airmate, the Goodyear Multiple Disc Brake, depends on your plane and its operating conditions. For complete information, write Goodyear, Aviation Products Division, Akron 16, Ohio or Los Angeles 54, California.

The tire [illegible] Goodyear ribbed type outstanding for its long wear especially in operations involving frequent landings on paved runways

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Beech, Cessna Give New Wind Tunnel

Under the joint sponsorship of the Beech and Cessna aircraft companies, the municipally owned University of Wichita will set up a new wind tunnel and an aeronautical research center.

The two companies have contributed a total of $100,000 for the projects. The wind tunnel will replace the one which has been in use at the university since the early 1930's.

▸ **Need**—Beech and Cessna officials say that because some of the nation's major aircraft plants are located in Wichita they saw a need for adequate wind tunnel facilities at the local university for the purpose of training students "who might spend part of their time actually working in the aircraft plants in order to obtain practical and well-rounded background in aviation."

▸ This is the second time in recent years the two companies have given financial assistance to improve research facilities at the university. Previously, each contributed $100,000 to the Wichita Industrial Research Foundation, which is located at the university and which makes its services available to all industrial enterprises in the area.

Solar Co. Expands Diversification Work

Solar Aircraft Co. has announced an expanded program for the diversification of its post-war products with the receipt of an order for stainless steel parts for use in the manufacture of the atomic bomb.

Edmund T. Price, Solar's president, said the company has several contracts from the Oakridge Ordnance plant operated by the Clinton Engineering Works near Knoxville, Tenn.

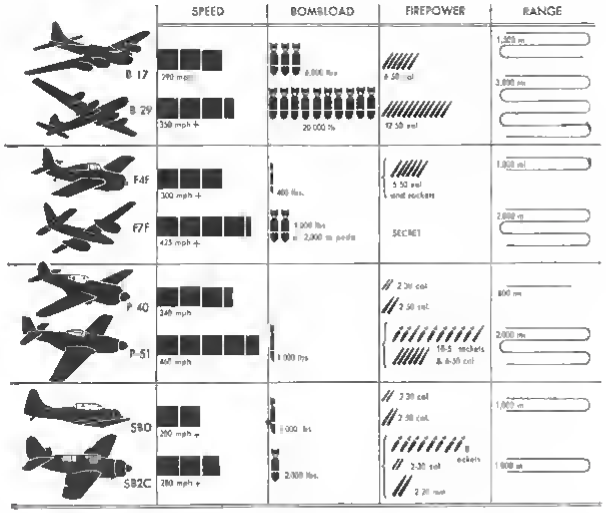
▸ **New Field**—Solar at San Diego, which has been active in the diversification of its products, also announced a line of major parts for midget automobile racing cars, a comparatively new field. Another item in Solar's post-war program is the company's new triple unit exhaust system which was exhibited at the Junior Chamber of Commerce sponsored Aerocade in San Diego. This unit is for use on small sport and commercial planes and combines in an exhaust manifold the functions of muffler and heater.

▸ At the recent directors' meeting, the regular quarterly dividend of 15 cents a share on common stock was declared.

Inspection Device Speeds Up Work

Inspection of parts in regard to size is expected to be speeded up by a new device developed by Pratt & Whitney and termed Electrolimit Comparator. Comparative readings are given by small neon tube lights on the sides of the instrument. If a part is undersize the minus light on the left remains on. If the part is oversize, the right light only is on. A part within limits doesn't light either tube.

WHY PLANES BECOME OBSOLETE



SURPLUS SHORT STORY:

From the Surplus Property Administration's booklet "White Elephants With Wings," issued last week, comes this chart illustrating why even the best of air weapons become surplus—greater speed, greater bombload and firepower, increased range. The booklet was prepared to explain SPA's policy on disposal of aircraft and stress the fact that combat types may be valuable only for the metal that may be obtained by salvage.

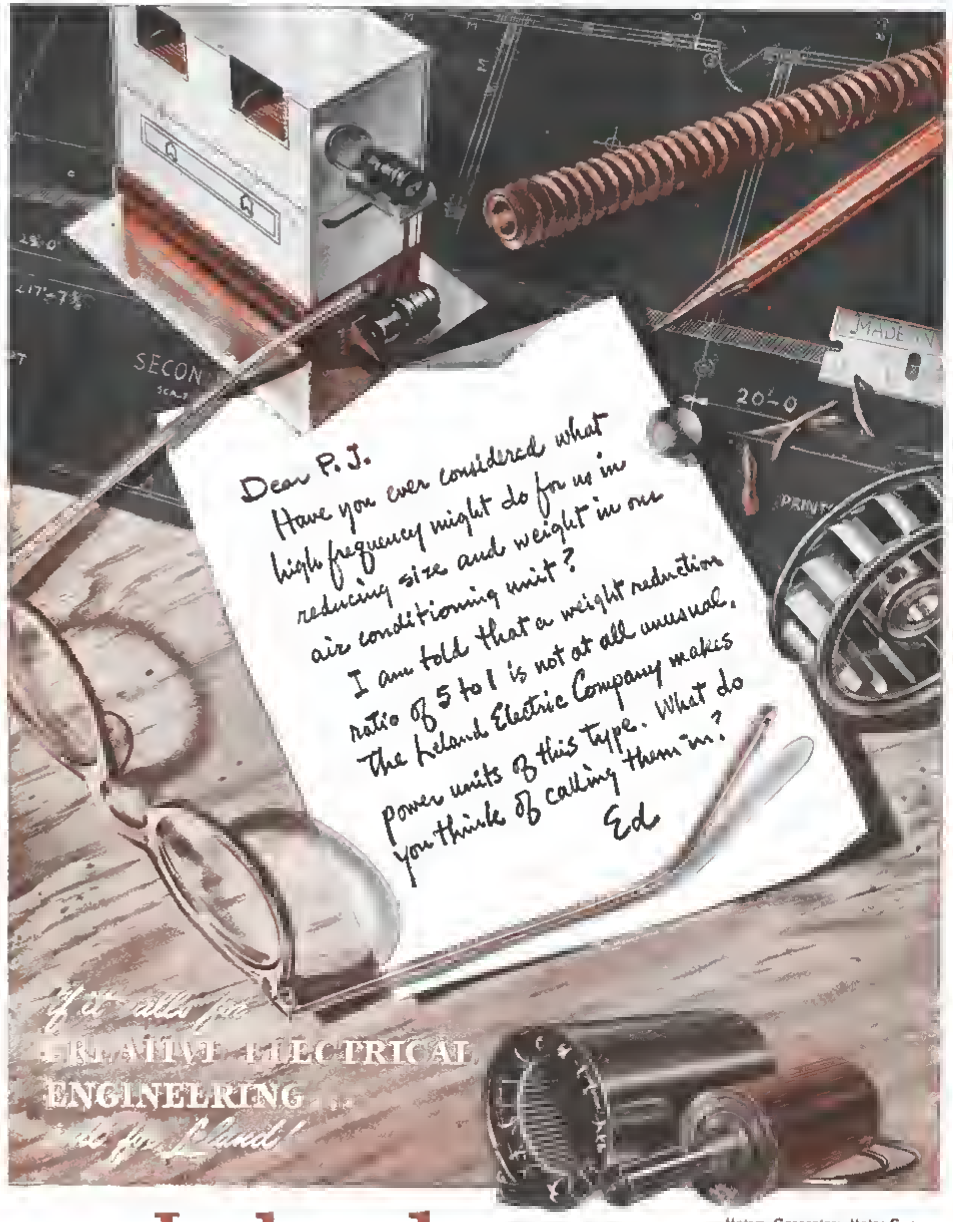
Kites For Sale

If anybody wants to buy a barrage kite, the RFC's aircraft division has 590 of them in Brooklyn. They have been declared surplus with the price set at $25, with a minimum purchase of one crate containing five kites.

These man-size kites were used to discourage enemy flyers from approaching cargo ships. They were flown high above the ships, tethered by a wire cable. The main part of the kite is box-shaped, with a width of 13-ft. A smaller box forms the tail. The overall length is 10-ft and they weigh 20-lbs., they have all-wood frames, covered with preshrunk and water proofed fabric. When collapsed they roll into a bundle 6½-ins. in diameter and 10-ft. long.

▸ The RFC adds a note of warning. Please don't fly them near airports or on airlanes where they might get in the way of aircraft.

▸ Incidentally, the RFC still has a full line of barrage balloons of assorted sizes for sale as surplus property. They are priced at 40 cents a square yard but you have to buy a whole balloon.



Meters, Generators, Motor Generators and Voltage Regulators

THE Leland ELECTRIC COMPANY

DAYTON, OHIO • IN CANADA, LELAND ELECTRIC CANADA, LTD.... GUELPH, ONTARIO

New-Type Brake

Development of a compact, ingeniously designed aircraft brake with a "built-in" cooling system has been reported by the Firestone Tire and Rubber Co.

John W. Thomas, company chairman, said the brake is being produced by the firm's aircraft wheel and brake division. He said that excessive temperature, with its attendant problems of rapid wear and distortion of brake part, leakage of hydraulic rubber parts, and tire and rubber deterioration have been overcome in this new brake. Consequently, he reported, high kinetic energy values of pound of brake weight are possible.

Navy Procurement Appears Settled

Navy's aircraft procurement program for the post-war transition period appears fairly well settled, pending further action by Congress. Other than a reduction of the Martin PBM schedule from five to two a month, there has been no significant changes in Navy's procurement program for nearly two months.

As of Oct. 1, deliveries for the last half of 1945 were to be 336 aircraft, for next year 1,069, and for the first half of 1947, 597.

▸**Rigid Policy**—However, deliveries are not meeting schedules due to a more rigid acceptance policy. Without the pressure of urgent war needs, the Navy is making every plane come up to its exacting standards. One result of this tightened inspection and acceptance policy is that last month Navy acceptances were almost 100 under schedule, even though production was considerably in excess of schedule.

Commercial Orders Increase At Martin

Glenn L. Martin reported that his company has added a considerable amount of commercial business to its $92,000,000 backlog of military contracts.

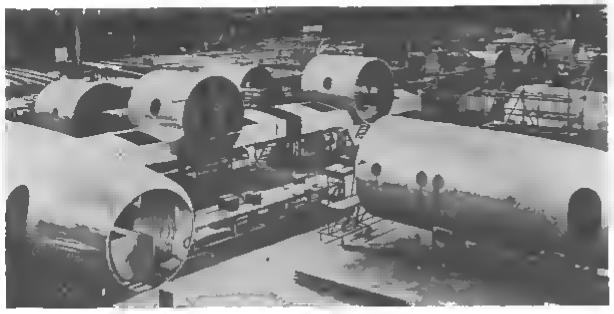
He mentioned the PCA orders for Martin's new 202 twin-engine transport and said that others from other airlines are expected. Martin said "We have reason to believe that this 30 to 40 passenger aircraft whose principal features are extremely low operating cost, high cruising speed and greater serviceability will become the standard transport type in the short and medium range field."

▸**Dividend**—A semi-annual dividend of $1.50 on the common stock of the company was declared at a board of directors' meeting. The dividend is payable Dec. 21, 1945 to stockholders of record Dec. 10, 1945.

Surplus Fabric Dope Offered By RFC

Surplus pigmented lacquer aircraft fabric dope is being offered for sale by the Reconstruction Finance Corp. at $1.90 per gallon delivered. A large quantity is available, RFC states.

Colors in stock include black, white, red, gray, blue and olive drab. Minimum quantity that can be sold is 25 gallons. Orders should be addressed to Reconstruction Finance Corp., Office of Surplus Property, 425 Second Street, N.W., Washington, D. C., and must be accompanied by certified check.



BRITISH AIRLINER FOR OVER-OCEAN SERVICE:
Britain expects to put the Avro Tudor in service on the North Atlantic run next year. Separate sleeping cabins, dining room and cocktail lounge will be some of the four-engine craft's features. Picture shows fuselage construction of the plane.

Salvage Venture

Some Canadian war veterans, using unusual ingenuity, are solving their own reconversion problem through the formation of Aircraft Mechanical Salvage Co., Ltd., and are converting aircraft equipment into wheelbarrows, auto trailers, paint sprayers, quick freeze units for homes and miniature gasoline powered cars for children.

H. Danbe, six years in the RCAF, is president of the company which has headquarters at St. Lambert, Que., near Montreal.

▸**Technique** — Typical of the products is the wheelbarrow made of steel aircraft tubing for the frame with the barrow part from aircraft fuselage and the tail wheel of an aircraft as a wheel. The auto trailer uses aluminum angles from *Hell-diver* wings for the undercarriage, 16 gage sheet steel for the body and *Tiger Moth* wheels and tires.

Fighter trainers supply revolving gun turret compressors for the paint sprayer. The stainless steel firewalls of bombers and parts from the trainers make the quick freezing unit for the home.

Jack & Heintz Enter Electric Motor Field

Jack & Heintz has entered the aircraft electric motor field with the introduction of the first of a group of new lightweight continuous-duty geared motors. These power-package units are being made available in sizes ranging upward from one horsepower.

▸**First Model** — The first model, designed for 28-volt D.C. systems is rated for continuous duty at 3 hp. with a speed of 3,800 rpm. at the splined output shaft. This self-cooled unit, developed to operate efficiently at 40,000 feet altitude, weighs 19½ pounds.

The record of Parker couplings, valves and fabricated tubing is one of complete dependability in both war and peace.

Whatever you make, or plan to make, consult a Parker Fluid Power engineer on tubing systems for either fluid or power transmission. The Parker Appliance Company, 17325 Euclid Ave., Cleveland 12, Ohio.

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PERSONNEL

Neff on Terminal Leave After Service in Navy

Comdr. Walter H. (Bob) Neff, who was officer in charge of the aviation section of the Navy's Office of Public Information, and assistant director of Navy public information for program planning, is on terminal leave after three years' service.

Formerly public relations manager of the eastern region for United Air Lines and later assistant director of public relations with Pan American Airways, Comdr. Neff also served for a short time with the Air Transport Association in Washington in connection with airlines' wartime public relations and advertising problems.

Peterson Named To Head AIA Technical Service

Ivar C. Peterson (photo) has been appointed director of the Technical Service of the Aircraft Industries Association, succeeding Eugene W. Norris, who resigned to accept an engineering executive position with a private manufacturing company.

Peterson, who joined the technical service in 1943 from the National Advisory Committee for Aeronautics, has served the AIA as secretary of the Aircraft Technical and Airworthiness Requirements Committee. He will continue to serve these committees.

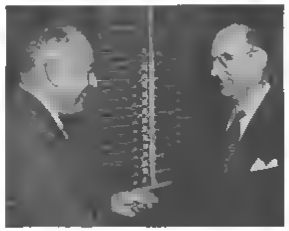
John H. Sidebottom continues as assistant technical service director in charge of activities of the Engine and Propeller Technical Committee, both of which he serves as secretary. **Victor C. Mellquist,** who serves on the technical service staff as secretary of the National Aircraft Standards Committee will continue in this capacity.

Eastern Air Lines, Inc., has appointed four station managers for the new Great Lakes division. **Francis E. Williams,** former station manager at Nashville, will be station manager at Detroit. **David W. Bughman,** station manager at Macon, Ga., will be station manager at Cleveland. **Harold A. Diggs,** previously chief agent in Boston, will be station manager at Akron, and **Edward M. Barbee,** formerly chief agent in West Palm Beach, will be station manager at Roanoke.

Capt. Charles S. Vaughn has become chief pilot of the Atlantic division of Pan American Airways. Vaughn has been assistant chief pilot for the New York sector, Africa-Orient division of Pan Am.

Arthur E. Raymond will head the Institute of the Aeronautical Sciences for 1946, succeeding Charles H. Colvin, retiring president. Raymond is vice-president - engineering for the Douglas Aircraft Co., having joined this organization in 1925. Previously he was assistant professor of aeronautics at the California Institute of Technology. He studied aeronautical engineering at Massachusetts Institute of Technology.

Willard Kelso Dennis, formerly librarian for Beech Aircraft Corp., Literature, has been named head librarian for Beech Aircraft Corp., Wichita.



TEN YEARS' SERVICE:

J. H. Kindelberger, left, president of North American Aviation, Inc., presents a 10-year service pin to R. H. Rice, vice-president and chief engineer. Rice joined the company when it began operations at Dundalk, Md., and has been chief engineer since 1939.

AWARDED FOR RESEARCH AND INVENTIONS:

Rear Admiral Luis de Florez, assistant chief of the Navy Office of Research and Inventions, was presented the Distinguished Service Medal by Undersecretary of the Navy Artemus L. Gates for his work as director of the special devices division of the Bureau of Aeronautics which developed training aids for Navy and Army pilots. In 1944 Admiral de Florez was awarded the Robert J. Collier trophy by the National Aeronautic Association for the greatest achievement in American aviation.

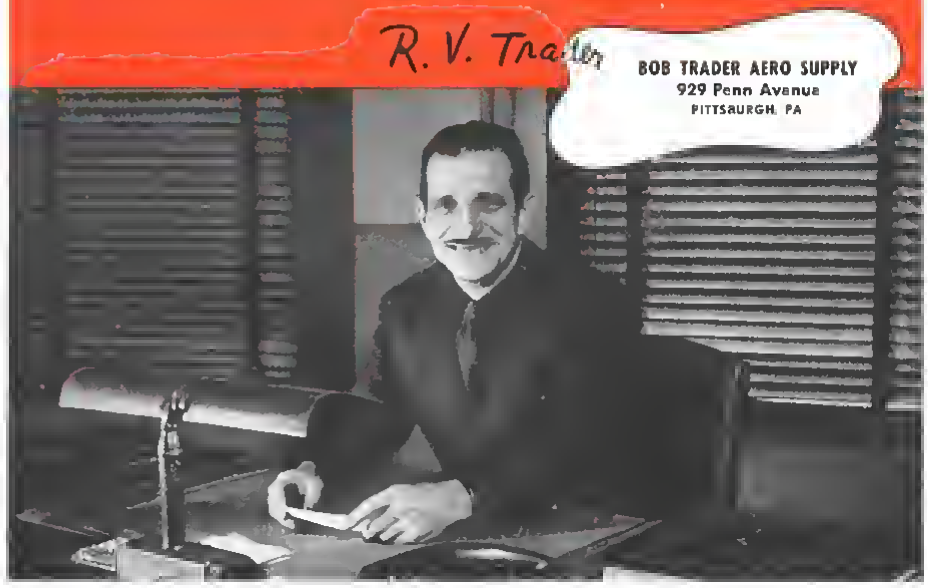
Neil T. Dalton, former acting head of the Office of War Information charged with its liquidation, has been appointed director of the division of areas and public relations consultant to the Foreign Liquidation Commissioners' office. He replaces **Henry C. Flower,** called back to his post and a director and vice-president of the J. Walter Thompson Co., New York. Dalton is the former managing editor of the Louisville, Ky., *Courier-Journal.*

Joseph E. Terry, for the past two years field assistant to the general traffic manager of American Airlines System, has been appointed district agency and international manager for the New York area.

Air Commodore A. L. James, Montreal, has been named member of the Canadian government's air council for research and development, succeeding **Air Vice-marshal E. W. Stedman,** Ottawa, who retires. James has been associated with test flying, repair and maintenance and aeronautical engineering for the RCAF since 1932.

Maj. John G. Maxwell has been appointed district traffic manager for Trans-Canada Air Lines at Winnipeg, succeeding **H. D. Harling,** recently appointed to the general traffic department.

...“We sell GENERAL Airplane tires because they are the finest tires made for an airplane”



To Flyers and Aircraft Supply Men . . .

GENERAL Airplane Tires MEAN

TOP-QUALITY . . . SAFETY . . . DEPENDABILITY

The famous reputation of General Airplane Tires is based upon a single fact . . . *performance!* Performance that can only stem from Top-Quality . . . a standard which General has set for the industry since earliest aviation.

Flyers know General's Top-Quality means *extra-safety* . . . dependability under most hazardous conditions . . . long service that lowers plane operation costs.

Aviation Supply Men, too, know the value of Generals—the airplane tire they can recommend with certainty of unfailing performance that helps make commercial flying pay . . . encourages popular flying.

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* *

New Airline Survey Presents Handy Guide for Investors

Stock exchange firm's annual review, profusely illustrated and more complete than its predecessors, weighs the pros and cons of the air transport investment situation.

A comprehensive picture of the airlines is presented by Merrill Lynch, Pierce, Fenner & Beane, New York Stock Exchange firm, in another of its annual reviews of the industry. More complete than any of its predecessors, this 58-page survey weighs the pros and cons of the industry and has a two-page description of each of the airlines. Profusely illustrated with charts and maps, this work affords a handy compendium for the airline investor.

The favorable factors summarized are:

- Air transport activities, with war restrictions removed, are beginning a new phase of the spectacular growth trend witnessed for many years past.
- Passenger traffic may rise to several times pre-war peak in first few peacetime years. Fares are expected to show progressive declines, with a resultant further broadening of demand for air services.
- Additional gains in mail tonnage likely for some companies as postage rates decline—airlines eventually may carry all first-class mail except short haul business.
- Most of early subsidy elements in mail pay picture already eliminated reflecting steep rate cuts and tremendous rise in tonnage.
- Vast expansion of freight-express business anticipated in nearby years, helped by rapidly decreasing charges for this class of service.
- Airlines likely to capture some traffic now moving over surface transport facilities.
- Equipment of improved performance and design to be available in large quantities before long.
- Air transportation should continue to benefit from constructive Governmental policies in coming periods. Cut-throat competition is likely to be held in check.
- Great number of trained flying and ground personnel available for commercial aviation employment, as result of the war.
- Capitalizations in most instances are of moderate size and should not reach burdensome proportions, even with heavy financing needs.
- While possibly subject to shorter term interruptions, the broad uptrend in earnings should be irregularly extended in next few years, as prospective gains in volume and new operating economies should offset certain limitations.

The unfavorable elements are listed as follows:

- Growth will involve variety of problems, including necessity of far greater financial resources than most companies at present control. In certain instances, expansion of capitalization may serve temporarily to restrict common per share results until the company's operations have caught up with the rise in capital structure.
- Competition within industry becoming more intensive reflecting increasing number of service duplications and the reopening of the equipment market.
- Surface carriers likely to continue efforts to enter airline field on broad front. Lower rates and service improvements, indicated in railroad field and elsewhere, will tend to augment competition for airlines.
- New international services may require to develop important earning power.
- Temporarily, excess profits taxes may be a retarding influence for few companies, although this factor is expected to wane in significance before much longer.
- Abnormal load factors of war years expected to drop over medium term, tending to curtail the recent high operating margins.
- Airlines may have to make progressively heavier outlays for airports and other ground facilities necessary in the very near future.
- There is a long range possibility of more stringent regulation of profits. For some time ahead, however, no rigid ceilings indicated in this respect.
- Medium term earnings trends may show lack of uniform development while dividends will be generally limited for indefinite time to come.

Close observers while recognizing the summary nature of the company descriptions, believe that a more complete picture would be presented if the various routes were more clearly detailed. Further along with the balance sheet data, it would have been most helpful to indicate book values per share. Some question surrounds the wisdom of calling load factors "percent seats sold." This can be misleading as many times seats were blocked off because of heavy cargo loads and were it not for this practice, more passengers could have been sold space. In any event, the summaries and statistical record going back to 1935, accompanying each company, should prove very helpful.

- **Statement**—In the general description of the industry, a few eyebrows may be lifted at the comment "[illegible] the Department of State which is actively pressing for American flying rights abroad employing a more aggressive policy than ever before." People in the industry wish that were so.

Trusts Shun Airlines

Despite their outstanding market strength which brought substantial profits to their purchasers (AVIATION NEWS Nov. 12) airline shares have been carefully eschewed by the nation's investment trusts. In a compilation recently released by the National Association of Investment Companies, it was shown that not one single airline appeared among the first 50 companies owned by the country's 30 largest investment trusts as of Sept. 30, 1945. This can be construed as a reflection of the fact that even the so-called best investment brains are not always right in their market selections. It is equally true however, that the conservative nature of investment trusts is inclined to avoid anything as speculative as the airline industry.

MAKE THE SKYWAYS YOUR HIGHWAYS

Learn to Fly!

WRITE FOR THIS FREE BOOKLET

IN THE interest of aviation progress, Firestone recently published an interesting and instructive new booklet entitled "Make the Skyways Your Highways — Learn to Fly," a copy of which is yours for the asking. All you have to do is fill out the coupon below and send it to Firestone, Akron, Ohio. It tells just what steps to take in learning to fly. It will prove invaluable to flying schools, airport operators and aircraft dealers in stimulating interest in flying.

For many years, Firestone has been a pioneer in aviation and is now organizing a nationwide network of independent aircraft dealers who will carry hundreds of useful products, including tires, spark plugs; batteries; brake linings; radio transmitters, receivers and direction finders; propellers; Plexiglas windshields; flight calculators; aircraft finishes; flying jackets; gloves; sun glasses and many others. There are still some territories open for alert, aggressive distributors and dealers. Write, wire or phone today.

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Clinic Hears Federal Regulation Of Feeder-Charter Lines Attacked

Garside forecasts non-scheduled service will reach every U. S. community in a few years, citing flaws in policy of government supervision.

Charter and feeder services will reach every community in the U. S. within a few years, but placing the infant non-scheduled transport industry under federal regulation today is unnecessary, the National Aviation Clinic was told by one of the leaders of fixed base aviation, Joseph Garside, president of E. W. Wiggins Airways, Inc.

"Right now charter service is more of a bone of contention than feeder lines," he said, "because it is under the scrutiny of the CAB to see whether it needs what is known as economic regulation. I believe that we in the business are agreed that the examiners deserve credit for the manner in which they attempted to reach a solution to the problem.

▸**Arguments** — "Their recommendations as a whole, however, are not good either for the industry or the public.

▸"There has been no price competition, so there is no need for economic regulation from that viewpoint.

▸"The proposed economic regulation includes nothing that will act to stimulate the business. It simply puts the lid on an empty pot," the Clinic's only speaker on the non-scheduled transport industry asserted.

▸"If the federal government is to concern itself with the economics of charter and other non-scheduled aviation, then it must, to be consistent, assume some responsibility for developing the service into a sound air transport system as was done for the scheduled division of the business with notable success.

▸**Time-saving**—"For several years charter rates will be higher than other forms of travel, but thousands will insist on using that service because the war has taught them how important a saving in time it can be. It seems fundamentally wrong to say that any time-saving advancement is impractical simply because it is costly. Remember that motoring is more costly than riding a horse."

The speaker pointed out that the long-haul airline, even in its infancy, saved time. That was enough to give it a start. Cost was high as compared with other transportation. The passenger had to weigh this and questionable dependability against the value of his time. On that basis the airline grew and flourished and overcame many of its difficulties, he said.

▸**Policy**—"To be sure," Garside added, "the airlines had the advantage of a progressive and far-sighted government policy that recognized their needs and helped them to grow. That same policy of development can be applied to short-haul service."

▸**Equipment**—Because safety is a paramount factor of operation. The most desirable planes are twin-engined equipment. But there has never been a wide choice of light multi-engine aircraft. While operators wait for twin-engine aircraft for all flying, Garside recommended single engine equipment for day use.

▸**Rates**—Operators with little experience must be able to anticipate revenue with enough accuracy to set a starting rate and then "feel their way along" toward reducing rates and consequently increasing business and net profits.

▸**Markets** — Charter services need not compete directly with trains or scheduled airlines, but should be able to hit that level of the travelling public which prefers to use the private car or taxi in preference to the bus or trolley.

R. H. W.

4 Canadian Lines Get Charter Permits

Four aircraft operators have been granted licenses by the Canadian Air Transport Board for non-scheduled charter commercial air services, all on a basis of "the present and future public convenience and necessity." None have been given rights for the establishment of scheduled services from the bases licensed.

Austin Airways Limited, operating since 1935, has been granted a

Flower Shipment Contract Signed

California Flower Shippers and National Skyways Freight Corp. have signed contracts for shipment of 12 tons of fresh flowers by air each week from California cities to Chicago in the airline's Budd *Conestoga* transports. There will be no increase in cost to the ultimate purchaser of the flowers, it was announced.

According to the carrier, this is the largest commercial air cargo contract yet signed in this country outside of the Post Office Department's air mail contracts.

▸**Plans**—California Flower Shippers are wholesalers and shippers in Los Angeles, San Francisco, San Mateo and Dallas. Outlets in midwest and eastern cities are contemplated. It is planned to insulate the planes with fibreglass, and thermostats will maintain temperatures at 45 degrees.

Savings in icing, packaging and carton weight will cut transportation cost to virtually that of rail rates, it was said. Flowers will arrive fresh at destination and the consumer will receive blossoms which will remain in good condition for several days more than most rail-shipped products.

▸**Crash**—Crash of one of the line's *Conestogas* in New Mexico leaves the company with two in service and unable to meet all demands until three additional planes of the same type have completely overhauled in two or three weeks. Another Budd, the prototype model, is on hand but is uncertificated.

Two of the company's pilots, Richard Sawyer and Lawrence Febsher, were killed and Ronald Lewis, flight engineer, was injured, when the transport crashed 80 miles southwest of Albuquerque, N. M., in a storm.

license to operate out of Nakina, Ont., with passengers and goods, giving air service to prospectors, trappers, trading post employes, water-power development personnel, tourists and others using the area

▸ **Others**—Johannesson Flying Service Limited, Winnipeg, has been given two non-schedule charter area licenses. The company has been operating for 12 years. It will operate one service out of Schist Lake in Northern Manitoba, and the other out of Winnipeg, covering the Manitoba mining and fur trapping areas. Two scheduled services operate there, Arrow Airways and Wings, both subsidiaries of Canadian Pacific Air Lines, which asked that the non-scheduled service not be permitted to operate between points on its routes.

▸ Laurentian Air Services Limited, Lac Masson, Quebec, has been operating a non-scheduled service since 1936 from a base at Domain d'Esterel, Lac Masson, a sports and tourist center, was licensed to continue this service and operate in the country north of the Ottawa and St. Lawrence rivers.

▸ Fletcher Air Transport, a new company, has been licensed to operate out of Sault St. Marie.

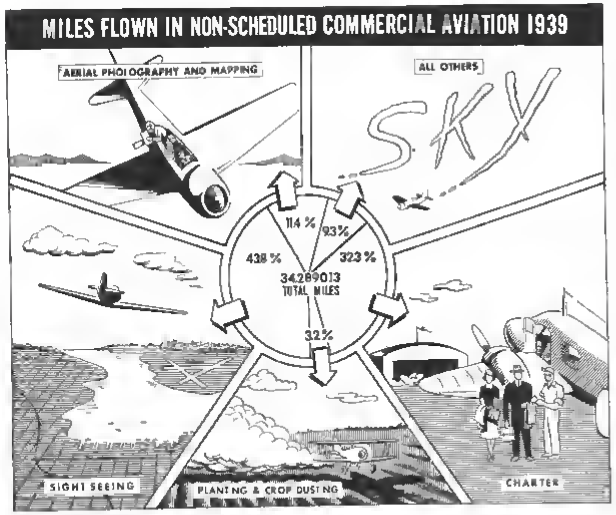
Hearings Open On Docket 1501

With approximately 10 hours set aside for the testimony of 18 witnesses, CAB's oral argument on Docket 1501, the investigation of non-scheduled air services, begins today in Room 5042 of the Commerce Building in Washington, D. C.

CAB Chief Examiner Francis W. Brown, in announcing the final order of appearances, emphasized that argument must be confined to the proposed revision of the order exempting non-scheduled carriers from economic regulation.

▸ **Witnesses** — Appearances scheduled are:

Philip Schleit, Public Counsel; Wm. L. Anderson, Pennsylvania Aeronautics Com.; Martin Gracey, Pennsylvania Aviation Trades Assn.; Joseph Garside, National Aviation Trades Assn.; Roscoe Turner, National Aviation Trades Assn.; Wayne Weishaar, Aeronautical Training Society; B. R. Otto, Feeder Airlines Assn. and Otto Aviation Corp.; James W. Batchelor, United Pilots and Mechanics Assn. and a number of air service operators, Arthur I. Boreman, Non-scheduled Flying Advisory Committee, Earl W. Shinn, American War Dads; Caesar Cone, Greensboro-High Point Airport Auth.; Edward H. Lowry, Jr., and Herman E. Riddell, Trans-Marine Airlines, Inc.; Arthur Stern, Empire State Air Transport Co.; Albert F. Beitel, Harry R. Playford, Vernon C. Kohlhaas, Air Cargo Transport Corp.; Coates Lear, Globe Freight Airline, Inc.; J. D. Durand, Air Transport Assn. of America; E. Smythe Gambrell, Eastern Air Lines, Inc.



Non-Scheduled Activities: *This CAA chart indicates that before the war non-scheduled aviation derived the greatest part of its revenue from sightseeing, followed by charter work, from which has sprung uncertificated air transport. Historical statistics on non-scheduled operations are scanty due to the recent rise of uncertificated air transport as a business distinct from the myriad activities of the former fixed-base operator.*

Western Conference Set On Aviation Legislation

Representatives of West Coast aviation groups may be expected to reach an accord on their attitude toward future aviation legislation when they hold their initial Western Aviation Conference in Sacramento, Calif., Dec. 11-12.

The conference is an expansion of the California Aviation Conference held in Hollywood last winter, and sponsored by the Los Angeles Chamber of Commerce.

▸ **Sponsorship** — The Sacramento meeting will have the combined sponsorship of a large number of organizations, including the National Aeronautic Association, the San Francisco Bay Area Aviation Committee, the Bay Area Council, Sacramento Chamber of Commerce, San Francisco Chamber of Commerce, and the Los Angeles Chamber of Commerce.

Business and civic leaders have been invited to attend the conference, and scheduled discussions will cover airport problems, commercial and private flying, flight training, and federal and state legislation.

Southern Feeder Line Planned By Veteran

A South Pacific air veteran—Lt. Col. Paul R. Davis of Shreveport, La.—has his plans all made for a feeder airline to serve southern towns.

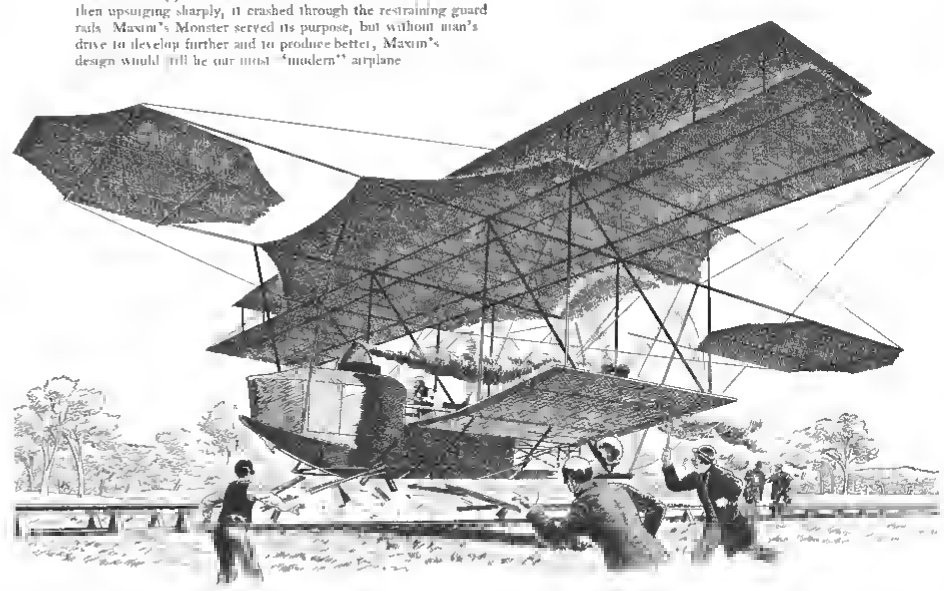
He returned to the U. S. several months ago with the signatures of 40 troop carrier and bomber pilots on agreements to fly for him.

▸ **Routes** — His "Scat" system — Southern Commercial Air Transport Inc.—would serve New Orleans, Baton Rouge, Natchez, Jackson, Vicksburg, Greenville, Clarksdale, Helena and Memphis on one route. Another would stop at small cities between Memphis and Lake Charles, and a third would serve small cities between Fort Smith, Ark., and Mobile.

How would you like to fly in

Hiram Maxim's "Air Leviathan" *today?*

In 1894, Sir Hiram Maxim tested his four ton multiplane (Wing surface 5,550 sq. ft.—Engines 300 h. p.—Propellers 17 ft. 10 in.) Wanting to measure the power of his propellers, Maxim harnessed the machine to running gear on the ground. With steam up, the leviathan ran 1000 feet. Rose six inches then upsurging sharply, it crashed through the restraining guard rails. Maxim's Monster served its purpose, but without man's drive to develop further and to produce better, Maxim's design would still be our most "modern" airplane.



In the Black Widow P-61 are many of the latest advancements in aircraft design. Like *retractable ailerons*, a Northrop development whereby big, heavy airplanes can have the maneuverability, fast take off and slow landing speed of smaller, lighter aircraft.

The Black Widow is a milepost in design, but only a milepost. Still more revolutionary planes, like the *Northrop Flying Wing*, will soon take to the air to outmode even the most "modern" designs of today.

And this is good. For continually improved aircraft in the hands of peace-loving nations can help forestall aggression in the world. They are *peace insurance*. They are also *prosperity insurance*, a means of bringing the world closer together in commerce and understanding.

Design leadership, however, is not enough. If we are to grow ever stronger in the air, there must be many men to take hold of new ideas and make them work—men to build these ideas into the better planes of peace. Yes, and men to fly them.

In fact the demands on the aviation industry now are as great and important as ever before. They are a challenge that can only be met by an industry which is strong, virile and independent.

NORTHROP

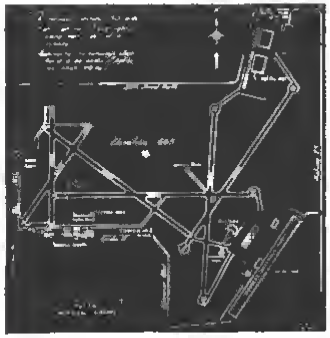
Creators of the **Black Widow** P-61 Night Fighter and the **Flying Wing**

Tulsa Municipal ONE OF THE BIGGEST, BUSIEST AIRPORTS OF 'EM ALL PICKS PHILLIPS

WE want you to know about an airport and staff that is on its toes, alert, and progressive as they come!

The Tulsa Municipal Airport isn't just a post-war dream . . it's a present-day reality

Previously restricted because of military security, these are the facts of this tremendous operation: It comprises 1,680 acres of land It has six concrete runways, 8.5 miles in total and 150 feet in width,



these runways accommodate the largest bombers and cargo ships built—and with its modern facilities it will be able to handle 2,500 planes daily!

Tulsa's fueling facilities are another feature New-type pumps in use are capable of pumping 80 gallons of gasoline a minute. Gasoline storage tanks have been increased in capacity to 100,000 gallons

Now, here's the pitch for Phillips *We think a pretty good indication of an Aviation Gasoline is the kind of people and places that use it.* We think the fact that Tulsa Municipal Airport is a Phillips customer speaks louder than all the product claims in the world.

We *earned* this confidence : : . we'd like a chance to earn yours If you have a problem which involves aviation gasoline, why not let us take a crack at it? Just write to the Aviation Department, Phillips Petroleum Company, Bartlesville, Oklahoma.

(Above) Main administration building at the Tulsa Municipal Airport—one of the most attractively designed buildings to be found at any airport

(Left) C. W. Short, Jr., Manager of the Tulsa Municipal Airport since its inception in 1928, and well known throughout the aviation industry.

Phillips
AVIATION GASOLINE

Airlines Hurrying to Carry Out ODT Set-Aside of Military Space

Carriers will set up schedules and interline routings to comply with 70 percent reservations with as little inconvenience to the public as possible; expected to last six months.

By MERLIN MICKEL

The airlines were hurrying last week on plans to carry out an ODT order, effective Dec. 3, to reduce seats available to civilian air travelers on eastbound flights from the West Coast to 30 percent of what they were Nov 20, and make the other 70 percent available to returning military personnel.

Through the Air Transport Association, the carriers announced they would set up schedules and interline routings to carry out the order with as little inconvenience as possible to the public. Troop traffic will leave West Coast terminals in groups on the four main transcontinental lines, going to East Coast separation centers directly when possible, or by connecting carriers if necessary The interline plan is expected to bring 16 airlines altogether into the program. Details are being worked out A meeting to consider them was held the day the order was issued.

▸**Duration** — Army sources said privately they expect the necessity for the order to continue not more than six months, with December and January the peak. But whatever the prospect, the news came at a time when many of the lines were booked heavily through the holiday season and even beyond

Cancellations will be unavoidable, but ATA hopes that "civilians will realize that it is our first obligation to get the boys home."

▸**Short Notice** — Issued Nov. 20, the order gave the airlines less than two weeks' notice. It was the first affecting air traffic issued by the ODT Under it airlines operating east from Seattle, San Francisco, Los Angeles and San Diego must make available daily to the armed services—roughly for division 50-50 between Army and Navy—not less than 70 percent of their seat space on eastbound flights from those points on the basis of Nov. 20 operations. The personnel to be accommodated will be that returning from the Pacific theater to Boston, New York, Baltimore, Washington, Norfolk, or Jacksonville. The services will pay regular rates for the space.

Estimates on the number of soldiers, sailors and marines that can be accommodated vary from 650 a day to 900 ODT's figure is 800, which would be about 24,000 a month ATA forecasts 25,000 a month. In the Army Transportation Corps the hope is it will run about 1,000 a day, or 30,000 a month

▸**Situation** — Army says service men will be returning from the Pacific to West Coast ports at the rate of about 425,000 a month, November through April. The situation is the opposite from that of those returning to the East Coast, because of the geographical distribution of the population. Estimates are that only 15 percent of the East Coast returnees require sleeping car reservations to reach their homes, while on the other side of the continent, the average runs about 85 percent.

With only seven rail lines running east from the West Coast, a shortage of Pullman cars, and delay in production of 1,200 troop sleepers, the commercial facilities of the airlines were drawn on for help This is additional to the contract operation under the "transcon project," whereby transcontinental air carriers moved 64,520 troops between Newark, N. J., and West Coast terminals from Aug. 27 to Nov. 16

▸**Result** — While the ODT order has no direct bearing on westbound traffic, some airline people expect it to have one indirectly, especially on businessmen who might be more likely to fly to the West Coast if they could be assured of return airliner space.

On the other hand, ODT pointed out that the railroads with roughly 70 percent of their Pullman cars in Army service, and their coaches subject to call, also will be faced with a critical space shortage.

The situation confronting the airlines was expected to be alleviated when converted four-engine equipment is ready for use, and there were some predictions that the order might speed the availability of surplus planes

FREIGHT CONTRACT:

In preparation for its new air freight program Dec. 1, Braniff Airways has a contract for ground service at eight Texas cities signed by Carroll M Bennett, vice president of Red Arrow Freight Lines, Inc Charles P Beard, Braniff vice president (right), here points out on a route map the cities for which the trunk line will provide door-to-door pickup and delivery service. Each city on the Braniff system will have similar service.

Long Under Way

Moves to obtain allocation of airline space for demobilization travel has been under way in military quarters for some time.

Soon after mid-October the Army Transportation Corps traffic control division signified to the airlines its interest in this regard, and a meeting to discuss the subject was held late last month. The airlines felt then, however, that they were not able to set aside in advance the amount of space indicated as necessary.

It appeared at that time that the Army probably would seek establishment of a temporary, limited priority as a solution

In-Flight Refueling Studied in Britain

Procedure discussed as expedient for putting short-range transports across ocean, bombers would be tankers.

In-flight refueling, standard practice in endurance runs of the 1920's and '30's, now is proposed as an expedient for putting Britain's short-range transport equipment across the Atlantic, and as a means of narrowing the gross-weight-payload spread for any or all long-range operations, pending the development of lighter fuels.

The proposal, by Flight Refueling, Ltd., is outlined in a recent issue of *The Aeroplane*, British magazine, with operational and economic data. Flight Refueling's primary objective is to enable the British to compete with American long-range equipment during the two years or so till they complete their own long-range designs.

(So far as could be learned, there is no recent or present interest in this country, from either a military or civil aviation standpoint, in in-flight refueling.)

▸**Tested**—Flight Refueling's data is based on experiments during the past 12 years under the management of Sir Alan Cobham and on English bombing operations during the war. Mr. C. H. Latimer-Needham recently joined the company's staff as chief engineer. He is convinced, says *The Aeroplane*, that in-flight fueling will answer the immediate problem and lead to reduction of gross weights and take-off loads.

Transfer of fuel from a flying tanker to an airliner was accomplished many times on Imperial Airways Atlantic trips in 1939 and during the war, and is now a routine procedure, the article says.

▸**Example**—The *Tudor II*, for example, will carry 34 passengers and 5,000 lbs. of cargo 1750 miles in still air. With re-fuel tankers stationed at Foynes and Gander, on the northern route, or at the Azores and Bermuda on the winter alternate, this plane could carry its normal load across the Atlantic.

The company which proposes to offer the service on a commercial basis, estimates cost of each refueling at about $2,000, resulting in a fare of $400 from each of 15 additional passengers plus revenues from 2000-3000 lbs. of extra freight, giving a considerable profit to the airline operator.

▸**Tankers**—Surplus bombers make suitable tankers. Presently the company operates a number of Avro *Lancasters*, each delivering 1,200 gallons, from tanks fitted into the bomb-bays. Further stripping of the planes should permit carriage of 2,500 gallons for delivery. Transfer of fuel is at the rate of about 130 gallons per minute; 2,000 gallons would take 15-20 minutes, while the transport continues on course at speeds up to 200 mph. The 250 ft. of hose is inhibited with nitrogen; breakaway can be accomplished at will immediately, or automatically. Illumination permits transfers at night.

Advantages claimed other than additional direct revenue, saving time required for fuel stops: eliminating the risk of landing and takeoff, saving cost of fuel station crews, eliminating the wear and tear on motors in fuel stops, especially in climbing back to altitude, saving wear on tires and under-carriages, saving the fuel required for taxiing and climbing, etc. Fuel transfer can be accomplished at 20,000 feet altitude, over weather conditions which would not permit a landing for fueling.

▸**New Design**—The company has produced an airliner design, to meet airworthiness requirements, at half the gross weight of the *Brabazon I* or equivalent U. S. projects, yet with a larger actual payload.

Whereas the *Brabazon I* specification entails a gross weight of 250,000 lbs, 20,000 hp., and 12,000 gallons of fuel, the FR design is 117,000 lbs gross, with 9960 hp., and 2850 gallons of fuel. The Atlantic payload is figured at 15 percent of the gross, compared with 5 to 6 percent in ground-refueled projects now under construction in England and the U. S.

That fundamental changes in the concept of long-range air transport might be made possible by this simple and already-proved process of fuel transfer, is "certainly a remarkable thought," the magazine says.

▸Yellowed news clippings credit Lieuts. John Richter and Lowell Smith with the first in-flight fuel transfers, between World War deHavilland biplanes in California in June, 1923. Many well-known aviation names were associated with mid-air fueling during the next two decades.

Surplus Allocations

The twentieth allocation of surplus transport aircraft by the Surplus Property Administration, announced a few days ago, distributed 49 C-54's among a dozen U. S. airlines.

Largest single allocation was that of 15 C-54A's to American, which also was allotted five C-54B's. Three C-54A's went to Northeast, and the remainder, all C-54B's, were divided as follows: five each to Eastern, Pan American, TWA and United, and one each to Braniff, Chicago & Southern, Continental, Delta, National and Western.

▸United and Eastern are to receive one DC-3 type plane each, and five C-53's are to go to these foreign applicants: A. B. Aerotransport Swedish Air Lines, Det Danske Luftfartsselskab (Denmark), Royal Norwegian Air Transport, Divisao de Exploracao dos Transportes Aeros (Portugese East Africa), and Divisao de Exploracao dos Transportes Aereos de Angola.

Total of surplus twin and four-engine Douglas transports allocated to domestic and foreign operators now stands at 398, of which 286 were domestic and 112 foreign.

Pan American Doubling North Atlantic Trips

Pan American Airways informed the Civil Aeronautics Board that effective today, Nov. 26, it is doubling its number of round-trips weekly between New York and London by adding two.

Among other airline service changes of which notice has been received recently by CAB are the following:

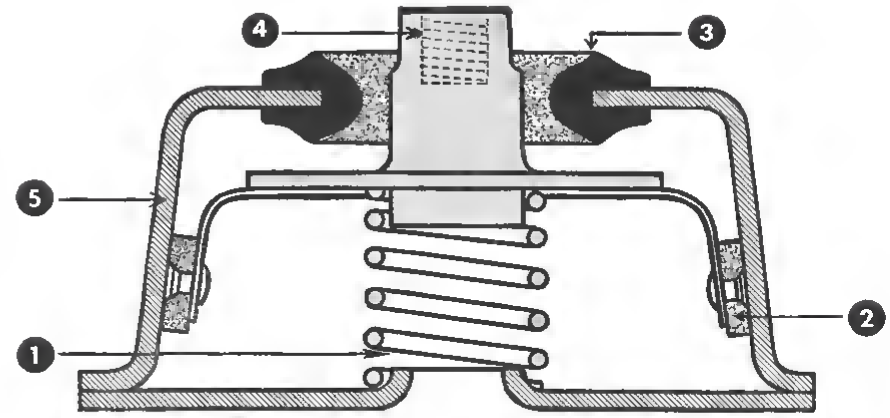
▸Caribbean-Atlantic Airlines—Eliminating special, non-mail service on AM 59 in Puerto Rico and the Virgin Islands, operated three times weekly for the last month from Ponce to St. Croix, San Juan to St. Thomas, and San Juan to St. Croix. Regular service continues.

▸Delta Air Lines—Inaugurates on Dec. 1 the Chicago-Miami service originally to have started Nov. 26, on AM 54.

▸National Airlines—Inaugurated Service to Norfolk on AM 31 Nov. 20 with one stop on southbound flight. Northbound stop will begin Dec. 1. Will add one round-trip daily on AM 31 between New York and Miami Dec. 1, bringing the number to four.

▸Northeast Airlines—Added one round-trip daily between New York and Boston on AM 65 Nov. 19, making a total of 16.

▸Pan American Airways—Added one round-trip daily between Miami and Nassau for a total of two and four round-trips daily between Miami and Havana for a total of 10. Effective Nov. 16 is using the Naval Air Station at Honolulu instead of Pearl Harbor airfield. On Dec. 22 will restore service to Cat Cay, Bahamas, with three trips weekly.



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Amazingly Effective, Surprisingly Inexpensive

CHECK THESE OUTSTANDING FEATURES OF THE VIBRASHOCK UNIT MOUNT

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2. Built in damping mechanism kills low-frequency oscillation and minimizes resonance at critical frequencies. (No other unit mount has this outstanding feature.)
3. Built-in three-way shock assembly complete with limiting disc and stud. (This is a saving to the user in both time and money, eliminating the necessity of installing washers, nuts and bolts.)
4. Rugged, load carrying central stud tapped for standard machine screws.
5. Sturdy, light weight, metal housing having standard attachment holes in its base.

This combination of features assures outstanding performance in the first *complete* unit mount offered to Industry.

Robinson engineers offer a low-cost standardized Vibrashock unit mount that closely approaches the high operating efficiency of the famous custom-built Vibrashock Dual Suspension.

Without sacrificing the proven basic Robinson principle of three-way vibration absorption, the new unit mounts are simple, rugged and long-lived. Comparative tests show marked improvement in performance over conventional type unit mounts.

The use of stainless steel springs, instead of rubber or synthetic, eliminates drift or permanent set and vulnerability to cold, heat or humidity.

Check your equipment—airborne, vehicular, mechanical — on these triple action mounts. The results are startling. (On one such application, electronic tube life has been increased from ten days to ten months.)

Vibrashock unit mounts are available in three sizes, and in a wide range of load ratings. Designers, engineers and purchasing agents will find in our new catalog "Vibration Control Engineered by Robinson," the answer to most vibration problems. Send for your copy of this new publication today.

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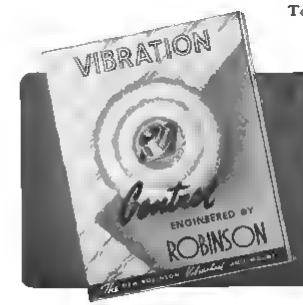

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Please send me your catalog on the new Vibrashock Unit Mount.

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ATC Expected to Terminate All Contract Work By March 1

Only six of 20 which originally handled operation still are doing so; 12 others hold contracts but have not heen called on in some time.

The extent to wbich Air Transport Command bas curtailed the transport operations for which it contracted with the airlines during the war is seen in the fact that only six of the 20 commercial carriers that at one time did ATC work still are operating under Command contracts

Services of the six have been reduced substantially, with the expectation that all will be terminated by March 1 next year. The companies and the scene of their contract operations: American, international and domestic; American Export, international; Northwest, domestic; Pan American, international; TWA, international and domestic; and United, international and domestic

▸**Earlier Cuts** — Contracts for transport and modification services with two airlines bave been cancelled, that with Colonial in June, 1944, and with Inland in December, 1944 Cost for tbe last available full year was estimated by ATC at $573,600 for Colonial and $263,500 for Inland.

Contracts with a dozen other companies still are in force, although the services required under them have ended and it is not anticipated that any of them again will be called on for ATC service These carriers, with the date of termination of services and estimated annual cost for the last available full year:

▸All American Aviation, July, 1944, $341,600; Braniff, September, 1944, $1,143,400, Chicago & Southern, June, 1944, $546,000, Continental, October, 1944, $646,700, Delta, September, 1944, $322,500, Eastern, October, 1945, $3,500,000, Mid-Continent, September, 1944, $428,000, National August, 1944, $666,300, Northeast, April, 1945, $1,735,900, Panagra, September, 1945, $200,000; PCA, August, 1944, $1,600,000; Western, September, 1945, $822,000 Total for the 12 is $11,956,400, for one year's operation.

▸Contract services also have been performed by Southwest Airways and Consolidated-Vultee Aircraft Corp. (Consairway) Contract with the former, which ran $325,000 for the last year, was concelled in June, 1944 Consolidated still is operating an international transport service under its ATC contract

WAL Shuttle Starts

Western Air Lines' daily special shuttle between Los Angeles and Palm Springs, Calif., started in mid-month after the 11th Naval District had denied Western use of El Centro's Marine Corps air base for a twice daily loop service from Los Angeles to Palm Springs, El Centro and San Diego. Navy denial of the El Centro landmg was caused by Marine Corps use of tbe base for experimental projects

New Aviation Group Urged In Detroit

With madequacy of Detroit's airport emphasized by American Airlmes' failure to use it as a trans-Atlantic terminal, the Detroit Metropolitan Aviation Planning Authority is urging formation of a new aviation planning group to be known as the Regional Aviation Planning Authority

This group would make plans on a regional basis for all of Michigan's aviation, including personal flying. Plans for its organization would be submitted to the next State Legislature, early in 1946.

▸**Stalemate** — Warring factions have stalemated attempts to clear up Detroit's airport mixup, with the result that after more than a year of seeking agreement on a site for a new airport, the obsolete Detroit City Airport still remains its one and only major terminal.

The situation was brought home sharply when American announced that Detroit would be by-passed on new international flight operations because the airport is "wholly madequate" to handle C-54's The city is the last of the six trans-Atlantic co-terminals for which American is certificated. Service started from New York and Boston, and last week Chicago, Washington and Philadelphia were to be included

▸**Recommendatinn** — Development of Wayne County Airport (Romulus Air Base), which recently reverted to county control, as the major air passenger terminal for the Detroit area was recommended by the Civil Aeronautics Administration The Wayne County site is on Willow Run Industrial Highway 30 minutes west of Detroit. The recommendation came only a few hours before American decided that it was too late to do anything about establishing a European flight terminal point in Detroit.

San Francisco To Reclaim Tidelands For Runways

First project to receive money from the $20,000,000 bond issue recently approved by San Francisco voters for airport improvements and expansion will be the reclamation of tidelands on San Francisco Bay, in preparation for runway extension Special emphasis will be placed on foundations capable of holding a 120,000-lb wheel load

The bond issue carried by a 5-1 margin. Money spent on the airport to date is said to total about $17,000,000, and airlines now using the field are reported to be ready to lay out between $40,000,000 and $50,000,000 to expand their own facilities.

▸The issue will place the city in a position to match federal aid funds should they become available.

Valley Case Cools Off

Hearings in the Mississippi Valley route case before Civil Aeronautics Board Examiners in New Orleans last assumed a more routine aspect last week as most major carriers, involved earlier in heated disputes, completed their presentations and a long list of feederline applicants began descriptions of their proposed services.

Helicopter service, as in other area cases, came in for considerable attention through a proposal by Burlington Transportation Co., subsidiary of Chicago, Burlington & Quincy Railroad. Ralph Budd, president of the railroad, appeared in support of an application to operate helicopter shuttle service from small towns in the area to main rail and air lines. Coordination of rail and highway service with air service would benefit the public, he said

Questionnaires To Be Distributed by PICAO

Air Transport Committee adopts specific forms to be sent all member governments; Brazil ratifies permanent agreement.

Questionnaires seeking a wide range of economic and statistical information on international air transport will be sent by the Provisional International Civil Aviation Organization next month to governments of all member-states.

Specific forms to be sent have been adopted by PICO's Air Transport Committee. It is hoped that information will be available beginning in January so that a global annual report for 1945 may be prepared.

▸ **Activities** — Recent PICAO activities also included:

▸ Announcement by Dr. Cesar Grillo, representative of Brazil, that his government had ratified the convention on international civil aviation. Brazil is the first nation to ratify the permanent agreement. PICAO, whose life is limited to a maximum of three years, will automatically be succeeded by a permanent organization when another 25 states have adopted the convention.

▸ Presentation of the official Canadian view on the granting of commercial rights in international air transport at a meeting of the air transport committee.

▸ Convening of the aeronautical maps and charts sub-committee and election of F. H. Peters, Canadian Government specialist, as chairman.

▸ Decision by the Interim Council to adjourn about the end of November until early in January.

▸ **Hearing**—An early meeting of the Air Transport Committee will hear the New Zealand viewpoint on commercial aspects of international aviation. It was believed that this statemant would be substantially the same as that contained in the joint New Zealand and Australian proposals at the Chicago conference.

MOVIES FOR TRANS-OCEAN AIR TRAVELERS: *Pan American Airways is helping trans-Atlantic passengers in its C-54's while away the monotony of their ocean voyage with sound movies. Equipment has been installed for use on the over-water leg of flights between New York and London. Specially constructed equipment is expected to halve the total weight of that now in use. PAA engineers are also studying feasibility of wiring the ships so passengers may pick up their choice of radio programs. Television is another future possibility being considered. Photos show motion picture projector now in use, and a blacked-out cabin with picture in progress.*

This plan, rejected at Chicago, was for international ownership and operation of civil air services on world trunk routes.

▸ **Canadian Stand**—The Canadian statement urged establishment of a permanent convention covering all aspects of world air transport and argued that PICAO's successor should have actual regulatory powers in order to prevent "freedom to compete from becoming freedom to quarrel."

▸ In its recommendations on economic and statistical questions, the Air Transport Committee suggested the calling of an international conference on air mail next spring. For preparation, the secretariat was asked to gather information from member states on pre-war experience relating particularly to possible development and its influence on the economics of international air transport.

▸ Other information will be sought on the operation of airports; airline accounting and financial reporting systems; forms and degrees of international ownership of airports and airlines, direct and indirect subsidies; competitive relationships, tariffs and costs of operation. The committee asked that the metric system be used for statistics.

Orders From Colombia

Viarco, S. A., and Lansa Limitade, S. A., both new air transport companies organized in Colombia, have purchased from Charles H. Babb Co., international aircraft brokers, seven planes and spare equipment. Viarco acquired three Lockheed twin-engine transports and ordered a Consolidated PBY-5A amphibian for operation between Buenaventura and Cali. Lansa Limitade purchased three Wright-powered Avro *Anson* planes to be converted for airline operation, and will also establish the first mail pick-up service in Colombia.

Eastern Seeks C-54's

Eastern Air Lines is seeking government allocation of 20 C-54 transports to augment its fleet of 56 DC-3's and 20 Lockheed *Constellations* to be delivered next summer. The Douglas *Skymasters*, four of which already have been allocated to EAL, will be converted by the Glenn L. Martin Co. With a cargo capacity of 2,000 lbs., the planes will accommodate 57 passengers and a crew of four or five.

Colossus' most important crop

HUGE producer though he is, of food and fiber crops, there's *one* crop in which the American Farmer takes special pride.

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Airlines Shifting To 40-hr. Week

The nation's airlines gradually are shifting to the 40-hour work week for ground employees, without reduction in take home pay. Definitely eleven, and probably more, will have the new schedule in effect by Jan. 1.

Those who have announced the plan thus far are American, American Overseas Airlines (formerly American Export), Braniff, Eastern, Mid-Continent, Northeast, Northwest, Pan American, PCA, TWA and United.

▸**Personnel Boost** — Eastern dropped from the general 48-hour week to 40 hours in mid-October. Pan American may do so sometime this month. Effective date for the others is Jan. 1 or, as with United, by Jan. 1.

Air Transport Association estimates the change will boost airline personnel 20 percent to an employment roll of about 12,000 by the end of 1947, and predicts that the number of airline workers per plane then will average about 100, compared with 50 in 1940.

▸**Schedules** — The contemplated schedules—flight personnel are not affected, because their week already is 40 hours or less—for the most part are five days of eight hours each, with time and a half for overtime after eight hours a day or 40 hours a week. The shorter week means a 20 percent increase for workers now on 48-hour schedule in straight hourly rate.

ATA has cautioned the airlines that the change must not be made for employees under labor agreements without formal negotiation with the union involved. Careful organization of personnel was suggested to avoid undue necessity of personnel increase when the change is effected, with a reminder that plans to increase personnel should be made before adoption of the new schedule to keep overtime payments as low as possible during the change.

Costs Hold Key To AE Mail Case

An important question to be resolved by the Civil Aeronautics Board in determining rate of mail pay to American Export Airlines, now American Overseas Airlines, for its New York to Foynes, Eire, operations is the extent to which experimental and development costs should be included.

This was indicated last week as hearings in the case were resumed for one day before CAB Examiner William J. Madden. Previous hearings were held early in February this year. At that time John E. Slater, director and executive vice-president of Export, and J. C. Gardiner, Jr., executive assistant, presented evidence dealing with estimates of operational costs and mail pay required. Hearing was resumed to afford Export an opportunity to present additional evidence, previously lacking, relating to development costs.

▸**Factor**—A factor likely to enter into consideration of what part of these costs should be included in determining the mail rate is Congressional action in 1941 refusing an appropriation for the operation.

▸The rate, when set, will be effective from Jan. 1 of this year. Future mail rate to the airline is not an issue in the instant case, which deals only with New York-Foynes operations of Export prior to its acquisition by American Airlines.

Contract Settled

Contract under which Eastern Air Line mechanics went on a 40-hour week was negotiated between the management and International Association of Machinists, A. F. of L., Oct. 3, after conferences starting last May.

The union commented: "It is straight-forward, hard hitting negotiating that has brought the membership of the International Association of Machinists these gains, while other union organizations are resorting to strikes."

Appointment of ATC Men To TACA Staff Promised

Brig. Gen. Tom Hardin, new executive vice-president of TACA Airways, is turning to the men he knew in the Air Transport Command for additions to TACA's executive staff.

Hardin announces that five new top executives in operations, traffic and administrative posts will be announced shortly, adding "I am securing the services of top officers from the Air Transport Command, all of whom served under me with distinction in Africa, China and India."

NWA Maps Faster Coast-to-Coast Trips

Northwest Airlines intends to offer limited-stop transcontinental service in less than 12 hours soon after the first of the year. NWA recently asked the Civil Aeronautics Board to approve requests for non-stop service between seven major cities on its coast-to-coast route. The proposed non-stop flights, conducted with DC-4 equipment, would be additions to present schedules, with more intermediate service also contemplated.

NWA proposes to fly non-stop, Seattle-Tacoma to Minneapolis-St. Paul, Seattle-Tacoma to Billings, Spokane to Minneapolis-St. Paul, Billings to Minneapolis-St. Paul, Minneapolis-St. Paul to Detroit, Minneapolis-St. Paul to New York, and Milwaukee to New York.

▸**Others File**—At least four other carriers have filed non-stop notices with CAB. They are: Eastern — Akron-Winston Salem, Greensboro-Columbia, and Charlotte - Jacksonville; National — Jacksonville - St. Petersburgh, PCA — Pittsburgh-Birmingham, Buffalo-Washington, Washington-Rochester, Flint-Grand Rapids, Washington - Akron, Detroit - Youngstown, and Baltimore-Cleveland; Western—Los Angeles-Palm Springs and Long Beach-San Diego.

Wider Air Service Predicted By Pogue

A policy of gradual extension of air service to embrace in time even light-traffic communities was predicted last week by Civil Aeronautics Board Chairman L. Welch Pogue in an address before the National Association of Commercial Organization Secretaries conference at Columbus, Ohio.

Progress along these lines, he pointed out, is hindered by the difficulty of solving the problem of justifiable government financial support. Such extension may require 20 or 25 years, but Pogue feels that the currently troublesome problem of costs "will present an entirely different aspect a few years from now." Technological advances, including possible adaptation of new and better aerodynamic designs, power plant improvements and electronics, may be expected to resolve some difficulties.

▸**New Methods**—"When civil aviation has fully caught up with wartime developments, in so far as they are applicable, and has achieved its own as yet unpredictable new goals in technological development," he said:

"I predict that we shall have airplanes so much better and more economical as to make the cost estimates and headaches of today entirely inapplicable. When that time comes, air service can and will be extended to additional categories of light-traffic areas."

Congress Eyeing Airlines' Profits

Airline profit figures, along with all other industry profit statistics, are being eyed in Congress, which is becoming increasingly "war profiteering" conscious.

Finger pointing at industry for reaping large war harvests, while labor worked and veterans fought, it is expected, will now be utilized by practical politicians as a vote-getting technique.

▸**Statistics**—Figures which have been furnished Senator James Murray (D-Mont.) show airline profits of 15.1 percent on net worth in 1944, and 10.3 percent on net sales. This was a jump from profits averaging 2 percent on net worth and 1.8 percent on net sales, before the war.

Many members of Congress are critical of firms holding government contracts earning over 8 percent profits. Early in the war period, when a move to put through legislation establishing profit ceilings on government contracts was underway, the percentage range of allowable profits discussed was between 6 and 8 percent.

▸**Limited Basis**—Murray's airline profit figures, however, it is learned, were based on studies of only six operators: American Airlines, Colonial Airlines, Pan American Airways, Roosevelt Field, Inc., Transcontinental & Western Air, and United Air Lines.

The net worth of these companies mounted from an average of $40,437,000 during the 1935-39 period to $122,758,000 in 1944, and their net sales climbed from an annual average of $44,060,000 before the war to $162,829,000 in 1944. In dollars, profits of the six concerns rose from $796,000 annual average during 1935-39 to $16,779,000 in 1944—a jump of 2007.9 percent.

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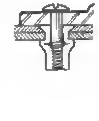

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TCA Starts Separating Its Overseas Services

With paying passengers now being carried on the daily Trans-Canada Air Lines trans-Atlantic service, TCA has begun to take financial steps to separate this operation from the wartime trans-Atlantic service it operated for the government. A liaison office has been established at London to work closely with the Canadian High Commissionar's office there for west-bound passengers.

During the war the Canadian government collected revenue for passengers carried on high priority, paying TCA its operating expenses. Now commercial traffic has started, though passengers must continue to obtain authorization for passage and must show their trip is of national importance. TCA uses converted streamlined *Lancasters* for its trans-Atlantic service, with seats for 10 passengers.

▸**Outline** — Under the financial transition being made for peace-time operations, TCA collects all revenue from the trans-Atlantic operations. If there is a surplus in any calendar year, half will be retained by TCA "as a reserve to provide funds to meet research and development expenses from time to time in connection with new and additional international services." The other half is repaid to the Canadian government as a return of capital, since the government owns TCA's trans-Atlantic fleet.

▸Depreciation and insurance charges are to be set up and, on demand, the amount of such charges is to be returned to the government to apply against the cost of the aircraft.

▸**Rates**—There will be an agreed trans-Atlantic mail rate arrived at by discussion between TCA and the Canadian post office department. Passenger fares will also be set, based on operating costs.

In this way the Canadian Government Trans-Atlantic Air Service remains in essence a non-commercial operation, but a preliminary financial step is taken towards the day when TCA will operate its own aircraft, sell trans-oceanic accommodation to all comers and undertake the necessary sales promotion to meet the highly competitive situation that will prevail on the North Atlantic.

▸**Plans**—TCA plans to use land-planes, most likely the Canadian-built DC-4M, on all its trans-ocean routes. It expects to fly to Australia from Vancouver via Honolulu, Canton Island, Suva and Auckland to Sydney, in about 40 hours. In addition to business men and tourists, it expects the service to be used by professional athletes, who will thus have more time for training than in travel by ship.

▸Both Canada and Australia are looking to a boom in their import and export trade, and TCA figures air travel will play a big role in commerce between the dominions.

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CAB SCHEDULE

Nov. 26. Hearing on Swedish Intercontinental Airlines (SILA) application for foreign air carrier permit. (Docket 2071.)

Nov. 26. Oral argument in investigation of non-scheduled air services. (Docket 1501.)

Nov. 26. Exchange of exhibits in Compania Cubana de Aviacion, S. A., foreign air carrier permit case. (Docket 1847.)

Nov. 28. Hearing on Expreso Aereo Inter-Americano S. A., application for foreign air carrier permit. (Docket 2112.)

Nov. 29. Briefs due in New England case. Postponed from Nov. 5 and 19. (Docket 309 et al.)

Nov. 29. Prehearing conference on Arizona Airways' application for acquisition of TWA's certificate for AM 68. (Docket 2005.)

Nov. 30. Briefs due in South Atlantic case. Postponed from Oct. 18 and 23. (Docket 1171 et al.)

Dec. 3. Oral argument in National-Caribbean Atlantic control case. (Docket 1907 et al.)

Dec. 3. Briefs due in Great Lakes Area case. (Docket 536 et al.)

Dec. 3. Exchange of exhibits in Aerovias Nacionales de Colombia foreign air carrier permit case. (Docket 1933.)

Dec. 3. Hearing on Compania Cubana de Aviacion, S. A., application for foreign air carrier permit. (Docket 1857.)

Dec. 3. Exchange of exhibits in Aerovias Nacionales de Colombia, S. A., foreign air carrier permit case. (Docket 1933.)

Dec. 10. Hearing on Aerovias Nacionales de Colombia, S. A., application for foreign air carrier permit. (Docket 1933.)

Dec. 12. Oral argument in South Atlantic case. Postponed from Nov. 12. (Docket 1171 et al.)

Dec. 14. Exchange of exhibits in Middle Atlantic case. Postponed from Nov. 1 and 30. (Docket 874 et al.)

Dec. 28. Exchange of rebuttal exhibits in Middle Atlantic case. (Docket 874 et al.)

Jan. 4. Exchange of exhibits in Kansas City-Memphis-Florida case. Postponed from Nov. 1 and Dec. 7. (Docket 1051 et al.)

Jan. 14. Hearing in Middle Atlantic case. (Docket 764 et al.)

Jan. 21. Rebuttal exhibits due in Kansas City-Memphis-Florida case. Postponed from Nov. 30 and Dec. 24. (Docket 1051 et al.)

Jan. 28. Exchange of exhibits in Universal Air Travel Plan case. Postponed from Dec. 3. (Docket 1039.)

Jan. 31. Comments due on proposed new Part 43, Civil Air Regulations, non-scheduled air carrier certification and operation rules. Extended from Oct. 1.

Feb. 5. Hearing in Kansas City-Memphis-Florida case. (Docket 1051 et al.)

Feb. 18. Exchange of exhibits in Pan American Airways application for domestic routes. (Docket 1803.)

Feb. 26. Hearing in Universal Air Travel Plan case. Postponed from Dec. 17. (Docket 1039.)

Mar. 18. Rebuttal exhibits due in Pan American Airways application for domestic routes. (Docket 1803.)

Apr. 1. Hearing on Pan American application for domestic routes. (Docket 1803.)

SHORTLINES

▸**American Airlines'** passenger miles in October were up 31.7 percent over the same month in 1944 and 9.5 percent over the 72,333,865 flown in September. Passengers carried in October totaled 153,642, or 28 percent more than the 120,324 carried in the same month last year and 6 percent greater than September's figure of 145,098. Airfreight pound miles totalled 622,153,920, a 904 percent increase over the 61,969,415 flown in October 1944 but an 11.8 percent decrease from September's total of 705,170,649. Mail pound miles were 2,017,639,656, or 3.4 percent less than the October 1944 figure of 2,086,027,951 and 6.5 percent under September's figure of 2,204,391,033.

▸**Braniff Airways'** personnel total reached 1,500 in mid-November, largest in its history. Returned servicemen constitute 80 percent of males being hired . . . One of two recently acquired Douglas C-47's, designed for cargo only, will be used by Aerovias Braniff, S. A. in Mexico; the other, on BNF's routes in connection with new air freight service to start Dec. 1. . . . BNF carried 106,940 passengers in the third quarter of 1945, an increase of 46.84 percent over the comparable 1944 figure of 74,169. Passenger miles flown increased 46.20 percent, from 26,234,673 to 41,645,158, revenue from all sources was $2,337,646, a 27.78 percent increase over the same period last year; while net profit jumped from $319,801 to $376,547.

▸**Northwest Airlines'** airmail increased 15,000 pounds in October over September, totalling 521,074 pounds and express rose 27,770 pounds to 186,770 pounds. Pound mileages were 490,261,314 and 115,564,005 respectively.

▸**Pan American Airways** made its 17,060th Pacific flight in mid-November when it resumed daily round-trip flights between San Francisco and Honolulu.

CAB ACTION

● Granted American Export Airlines permission to intervene in Swedish Intercontinental Airlines' (SILA) application for a foreign permit. (Docket 2071.)

● Granted Eastern Air Lines permission to serve Roanoke, Va., through Woodrum Field; Detroit, Mich., through Detroit City Airport, and Akron, Ohio, through Akron Municipal Airport.

● Denied petitions of American Airlines and Fage Airways for reargument and reconsideration of Washington-Ottawa-Montreal case. (Docket 608 et al.)

● Dismissed Iron Great Lakes Area case (Docket 536 et al.), at applicants' requests; application of Belt Aviation, Brooks Air Line, and International Airways, disclosed from the case, for failure to submit exhibits and notar appearances, applications of Aircar Service Co., Chicago & Calumet District Transit Co., Illinois Air Lines, Mercury Development Corp., Milky-Way Transport Corp., Northern Michigan Airlines, Plaza Express Co., and Tri-State Aviation Corp.; and permitted city of Evansville, Ind., and Adkins Traveler Co., Inc., et al to intervene.

● Rescinded order of May 26, 1942 authorizing United Air Lines to suspend service temporarily at Red Bluff, Calif., on AM 11.

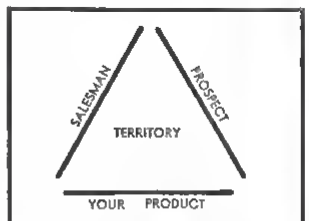
Examiners Urge Denial of UAL Consolidation

The Civil Aeronautics Board last week received examiners' recommendation for denial of United Air Lines' petition for consolidation of its new route application into the Mid-Continent-American Airlines merger case (AVIATION NEWS, Nov. 12). The application seeks to link Minneapolis-St. Paul, Kansas City and St. Louis to UAL's trans-continental route to offset threatened loss of connections with MCA for traffic from these cities.

Examiners William F. Cusick and J. Earl Cox made the recommendation in their prehearing conference report on the merger proceeding. The report also set January 21 for hearing.

Aerial Pickup Shown

Canadian postal authorities at Ottawa and Montreal were given a demonstration recently of aerial pickup service. The equipment shown them requires a clearing only 500 ft. square and consists of a plastic rope loop, hung from 20 ft. poles 20 ft. apart, to which is attached the container to be picked up.



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The Budget Bureau and Aviation—I

THE FUTURE ATTITUDE of the Bureau of the Budget toward aviation has been ignored for too long a time, primarily because of a striking lack of information and knowledge about it and a fatalistic attitude that nothing could be accomplished if we did know about it.

The Bureau, in the executive office of the President, has as its prime functions, as far as we in aviation are concerned: (1) to assist the President in preparing and administering the budget, (2) to assist the President by clearing and coordinating advice on proposed legislation and by making recommendations as to Presidential action on legislation. There are other functions, such as to plan improvement, development, coordination and more economical operation of federal agencies, and to conduct research into better management.

The power this agency wields is tremendous. It trims and dictates by absolute veto power the budget of every federal agency. The only appeal the agency has open to it is so complicated that few of them are willing to put up the fight very often. Further, the agency must rearrange its budget to omit any trace of vetoed items before the revised budget is sent to Congress, and no executive of that agency can make any reference whatsoever to an item which has been reduced or eliminated by the Budget Bureau unless he is asked specifically by a member of Congress during appropriations committee hearings. The only hint of the extent of cuts which have been made in an agency's budget is the appearance of the total figure which was originally requested.

The Budget Bureau also has the power to retard and discourage any legislation—proposed, or before Congress—by stating simply that the bill is not in accord with the President's program. Many Congressmen, especially on the majority side, are extremely hesitant to push bills which have been so branded.

An expansion of the Bureau's activities will not be surprising. As a matter of fact it had a hand in formulating our international aviation policy which most of us contend was the mission by established law of the State Department and the Civil Aeronautics Board. The Bureau's rightful function was to see that State and CAB did not work at cross purposes and to act as liaison with the White House.

There is an unhealthful and unnecessary awe of the Bureau and all of its works, traceable probably to its location in the executive office, plus the subordinate fact that its small number of personnel, about 600, are ordered to maintain strict silence on even the most routine activities. Probably no other federal agency is so free from the public's gaze and the democratic glare of the limelight. Certainly there is no other federal group with as much power whose ordinary daily workings and organizational set-up are such a mystery, even to high government and industry executives.

Despite the placement of the Bureau in the executive office, however, it should be realized that the President cannot consider personally a fraction of the matters he sends to the Bureau. It is also obvious that the Bureau must rely mainly on its own staff. Its personnel are administrative analysts, budget examiners, fiscal analysts, legislative analysts, statisticians and economists, all reputedly of high professional caliber. Occasionally it may call on outside experts as consultants, but they, likewise, are analysts, examiners and statisticians. These men are top flight theorists but frequently with little experience in industry, science, or even the world of hard knocks. They are, therefore, frequently lacking in vision and ability to interpret the great transformations going on about them, and hesitate to sacrifice perfection for the more realistic job of planning for tomorrow on the basis of the disorganized world which lies before their eyes. They would stop the world for a year until they could start it off again with a better plan.

This was well illustrated a few days ago when an Army general disclosed to a Senate Appropriations Committee during a hearing that the Budget Bureau, which "acted largely on its own initiative," had cut out major research items for next year because it felt the Army should pause and take stock of what had been done and what the Army proposed to do. Postponement of research for about a year was actually suggested by the Bureau instead of permitting the department to consolidate and take advantage of the latest scientific advances.

Despite the recent unanimity of our most respected military and industrial leaders on the absolute necessity of continuing our research the Bureau cut the Army Air Forces latest requests for research from $245,000,000 to $115,000,000. The House Appropriations Committee took the Bureau's figures as gospel, passing them without change. The Senate, however, raised the figure to $200,000,000. This item then went to conference.

In the same bill, the first supplemental appropriation recision, the Navy requested $146,000,000 for aeronautical research. The Bureau slashed this to $61,000,000 before permitting the budget to be sent to Congress. Again the House accepted the Bureau's action. The Senate however, restored the full amount for which Navy had originally asked, after it heard the Assistant Secretary for Air, John Sullivan, warn of the seriousness of this reduction.

Many of these funds which the Army and Navy had requested would have been reflected in orders to the aircraft industry.

If these actions by the Budget Bureau are indicative of its attitude on all aviation research and development, then we have still another reason for exerting every effort to wrest from the government a national research policy. However, Congress can protect us in this interim if it does not hesitate to override the Budget Bureau as often as it deems necessary in the public interest.

Another recent example of the Bureau's myopic tendencies was its flat turn-down a few days ago of a CAA request for civilian pilot training funds. This followed closely the elimination by the Bureau of a $6,000,000 item from the Navy budget for an aviation training program, to keep the post-war fleet supplied with pilots. The result of this cut was described to Senate members of the Appropriations Committee as "extremely dangerous."

One of the classic examples of Budget Bureau hindsight was the persistent refusal some years ago to permit estimates for the War Training Service to go to Congress in the amounts its sponsors knew were absolutely necessary. WTS then was preparing pilots for our own wartime Army and Navy. Three times the Bureau cut WTS drastically. Finally, after husky support from various aviation groups, and Senator McCarran, the agency was permitted to request the proper amounts.

When CAA finally sent its national airport plan to the President for submission to Congress it was sent back by the Budget Bureau as ill considered. The plan was rewritten, improved, and returned, again Budget turned it down. Finally it became sensitive to public demand (a lesson aviation should take to its heart for the future) and relented to the extent of permitting CAA itself to submit the plan to Congress, rather than allowing the President to transmit it with a request for action.

Here again the Bureau had sought perfection because it contended that no airport plan could be drawn up without a nationwide survey—money for which, incidentally, CAA did not have. This survey, Budget held, must take into consideration war-built airports which might become surplus. CAA already had tried and failed to get either Army or Navy to give any idea of which, or how many, airports ultimately would be declared surplus.

As in so many other Budget Bureau rejections, its objections were conscientiously arrived at but impractical and unrealistic. One would have a right to feel that Budget Bureau's analysts should have some conception of the vital need for civil airports, and the importance of hundreds and thousands of them in increasing the utility of the airplane to the public.

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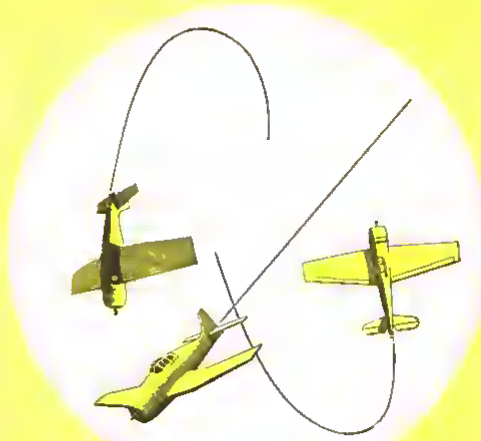

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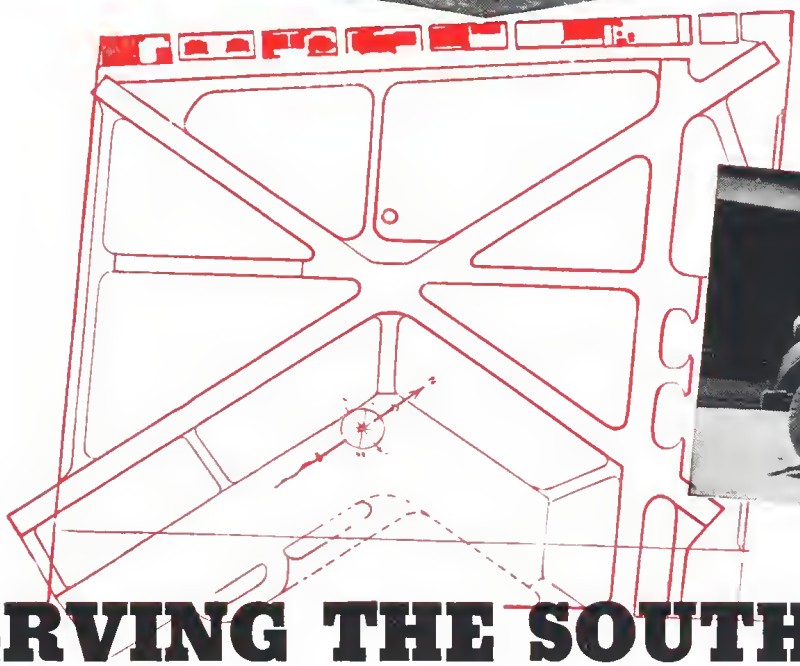

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RECONVERSION RUSTPROOFING

4 Points to Remember

1. Ordnonce Specification P.S. 300-4 contoins *officiol instructions* for the complete processing of Government-owned production equipment.
2. These instructions require that only rustproofing materials meeting Government specificotions be used.
3. *Texoco rustproofing products meet Ordnance specifications for opplicotion on Government-owned equipment.*
4. For full informotion, see your Texaco representotive or write to us.

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